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ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH.

BY

SIR JAMES EDWARD SMITH, M.D. F.R.S.

PRESIDENT OF THE LINNÆAN SOCIETY, ETC. ETC.

THE FIGURES BY

JAMES SOWERBY, F.L.S. G.S. &c.

"..... quos ipsa volentia rura
Sponte tulere sua ...." VIRGIL.

THE THIRD EDITION,

ARRANGED ACCORDING TO THE LINNÆAN METHOD, WITH THE DESCRIPTIONS SHORTENED, AND OCCASIONAL REMARKS ADDED.

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ENGLISH BOTANY.

Class X. DECANDRIA.

Order I. MONOGYNIA.

Genus CCXXXVI. MONOTROPA. *Bird's Nest.*

Nat. Order. Pyroleæ.

Gen. Char. *Calyx* inferior, 4- or 5-leaved, coloured; sepals hollowed at the base. *Petals* 4 or 5. *Stamens* 8 or 10. *Capsule* 4- or 5-celled. *Seeds* numerous, invested with a long arillus.

A curious genus of parasitical herbaceous plants, of a brown or yellowish hue, resembling that of *Fungi*. Their stems are beset with alternate or scattered scales, the rudiments of leaves, which in the truly parasitic plants are never developed.

MONOTROPA Hypopitys. *Yellow Bird's Nest.* Tab. **580.**

Lateral flowers with 8, terminal one with 10 stamens. Raceme drooping at the extremity.

Monotropa Hypopitys, *E. B.* 69. *Smith* II. 249. *Lindley* 176. *Hooker ed.* 2. 187. *ed.* 3. 191.

This remarkable plant vegetates only on the roots of beech and fir-trees, and seems rarely to perfect its seeds, which may account for its comparative scarcity. The base of the plant is perennial, sending up stems from 6 to 9 inches in height, each terminating in a raceme of dingy yellow flowers, at first drooping on one side, whence the generic name, but becoming erect in maturity. When dry, it acquires a faint sweetish scent, compared by some persons to that of the Common Primrose. Flowers in June and July.

Genus CCXXXVII. PYROLA. *Winter-green.*

Nat. Order. Pyroleæ.

Gen. Char. *Calyx* inferior, 5-cleft. *Petals* 5, slightly coherent at the base. *Anthers* opening with 2 pores. *Cap-*

sule 5-celled, dehiscing at the angles of the base. *Seeds* numerous, invested with a long arillus.

Perennial herbaceous plants, natives of moist, rocky woods, with evergreen, entire leaves, and white or pink flowers, in terminal, naked, mostly unilateral, racemes.

PYROLA ROTUNDIFOLIA. *Round-leaved Winter-green.* TAB. **581**.

Stamens ascending. Style twice as long, declining, curved upwards at the extremity. Calyx as long as the stamens. Raceme many-flowered. Leaves roundish, slightly crenated.

Pyrola rotundifola, *E. B.* 213. *Smith* II. 255. *Lindley* 175. *Hooker ed.* 2. 188. *ed.* 3. 192.

Apparently rare, having been undoubtedly confounded in some of its alleged habitats with a variety of *P. minor*. It is well distinguished by the direction and relative lengths of its stamens and style. The largest of its genus. Flowers in July and August. Petals white, expanded.

PYROLA MEDIA. *Intermediate Winter-green.* TAB. **582**.

Stamens inflexed, much shorter than the decurved style. Calyx shorter than the stamens. Raceme many-flowered. Leaves roundish, slightly crenated.

Pyrola media, *E. B.* 1945. *Smith* II. 256. *Lindley* 175. *Hooker ed.* 2. 188. *ed.* 3. 192.

Frequent in woods in the northern counties and in Scotland, where it has occasionally been confounded with the preceding species, which it resembles in foliage, though very distinct in other respects. Flowers in July and August.

PYROLA MINOR. *Lesser Winter-green.* TAB. **583**.

Stamens inflexed, equal in length to the short straight style. Stigma large, with 5 divergent rays. Raceme many-flowered. Leaves roundish-ovate, crenated.

Pyrola rosea, *E. B.* 2543. Pyrola minor, *Smith* II. 257. *Lindley* 175. *Hooker ed.* 2. 188. *ed.* 3. 192.

This, like the rest of our *Pyrolæ*, is chiefly attached to the mountainous woods of the north, and is rare elsewhere. The short style, completely included within the cavity of the corolla, and large radiated stigma, constitute the leading features of distinction. Flowers in July.

PYROLA SECUNDA. *Serrated Winter-green.* TAB. **584**.

Leaves ovato-lanceolate, serrated, acute. Flowers all leaning one way.

Pyrola secunda, *E. B.* 517. *Smith* II. 257. *Lindley* 175. *Hooker ed.* 2. 188. *ed.* 3. 192.

A very distinct species, with straggling, somewhat procumbent

stems, and greenish-white flowers. Chiefly attached to fir-woods in the alpine districts of Scotland. Flowers in July.

PYROLA UNIFLORA. *Single-flowered Winter-green.* TAB. **585.**

Stem bearing a solitary flower. Leaves orbicular.

Pyrola uniflora, *E. B.* 146. *Smith* II. 258. *Lindley* 175. *Hooker ed.* 2. 188. *ed.* 3. 192.

Moist alpine woods in Scotland sparingly produce this elegant little plant, whose slender but perennial roots strike deep among the moss on the borders of rills and water-courses. The flower, which is large compared with the size of the plant, is very fragrant, white, delicately veined with pink, and makes its appearance in July. The lobes of the anthers are so deeply channeled as to make them appear 4-celled, and are prolonged at the base into two tubes through which the pollen is discharged. The stigma is large, 8- or 10-rayed, terminating the short, straight style.

GENUS CCXXXVIII. ANDROMEDA. *Andromeda.*

Nat. Order. ERICEÆ.

GEN. CHAR. *Calyx* inferior, deeply 5-cleft. *Corolla* ovate, with a 5-cleft, reflexed border. *Anthers* with 2 awns. *Capsule* 5-celled, 5-valved, dissepiments from the middle of the valves (*loculicidal*). *Seeds* numerous.

Ornamental evergreen shrubs, with white or pink flowers, and entire, rigid leaves. Chiefly attached to the western hemisphere, of which the few European species are likewise natives. Moors and peat bogs are their usual habitats.

ANDROMEDA POLIFOLIA. *Marsh Andromeda.* TAB. **586.**

Flowers in terminal clusters. Leaves alternate, lanceolate, revolute, glaucous beneath.

Andromeda polifolia, *E. B.* 713. *Smith* II. 251. *Lindley* 173. *Hooker ed.* 2. 189. *ed.* 3. 193.

This elegant little shrub grows on peat bogs and morasses in the mountainous parts of England and Ireland, and lowlands of Scotland, intermingled with heaths and Vacciniums. Its delicate rose-coloured flowers, mostly concealed by the terminal leaves, are produced in June.

GENUS CCXXXIX. ARBUTUS. *Strawberry-tree.*

Nat. Order. ERICEÆ.

GEN. CHAR. *Calyx* inferior, deeply 5-cleft. *Corolla* ovate, with a contracted 5-cleft, revolute margin. *Stamens* villous

at the base; *anthers* awned at the base, with 2 pores. *Berry* rough, 5-celled, many-seeded.

Handsome evergreen shrubs or small trees, with a panicled or racemose inflorescence, alternate, rigid, serrated leaves, and white, greenish, or pink flowers.

ARBUTUS Unedo. *Strawberry-tree.* Tab. **587.**

Stem arboreous. Leaves smooth, bluntly serrated. Panicle terminal. Berries tubercled.

Arbutus Unedo, *E. B.* 2377. *Smith* II. 252. *Lindley* 174. *Hooker ed.* 2. 189. *ed.* 3. 193.

This beautiful tree, probably introduced from the South of Europe by the monks of Mucruss Abbey, is completely naturalized in the South of Ireland, and has long constituted a principal ornament in the rich and romantic scenery around the lake of Killarney. Flowers in September and October, bearing ripe fruit at the same time from the blossoms of the preceding autumn. The rough crimson berries are eagerly devoured by birds, but however tempting in appearance, are not sufficiently palatable for the human epicure; hence, indeed, the specific name *Unedo* is supposed to have arisen, indicating that those who might eat one would not wish to taste a second.

Genus CCXL. ARCTOSTAPHYLOS. *Bear-berry.*

Nat. Order. Ericeæ.

Gen. Char. *Calyx* inferior, 5-cleft. *Corolla* ovate, with a contracted 5-cleft, revolute margin. *Stamens* smooth; *anthers* without pores. *Berry* smooth, 5-celled. *Seeds* subsolitary.

Trailing shrubs, originally confounded with the last genus, from which they differ chiefly in the smoothness of the fruit, and in the absence of pubescence on the filaments. Flowers white or flesh-coloured, racemose. Leaves alternate.

ARCTOSTAPHYLOS alpina. *Black Bear-berry.* Tab. **588.**

Stems procumbent. Leaves wrinkled, serrated. Racemes terminal.

Arbutus alpina, *Linn. E. B.* 2030. *Smith* II. 253. *Hooker ed.* 2. 189. *ed.* 3. 193. Arctostaphylos alpina, *Adanson. Lindley* 174.

Dry mountainous heaths among the Highlands of Scotland produce occasionally this pretty, though humble shrub. In the Orkney and Western Islands it is more frequent. The leaves are deciduous, changing to a bright red colour in the autumn before they fall: their figure is obovate, tapering into a footstalk at the base, which is fringed with hairs. Flowers white or pale flesh-colour, appearing from the ends of the branches in May, and are succeeded by black berries resembling currants, but less agreeable in their flavour.

ARCTOSTAPHYLOS Uva-ursi. *Red Bear-berry.* Tab. **589.**

Stems procumbent. Leaves obovate, entire; their margins revolute. Racemes terminal.

Arbutus Uva-ursi, *Linn. E. B.* 714. *Smith* II. 253. *Hooker ed.* 2. 190. *ed.* 3. 193. Arctostaphylos Uva-ursi, *Adanson. Lindley* 174.

A native of stony, barren, alpine heaths in the North of England, and in Scotland and Ireland. A beautiful little evergreen, with long trailing branches, obtuse, dark-green, rigid, glossy leaves, reticulated beneath, and terminal clusters of rose-coloured flowers, which appear in May. The bright red berries remain through the winter; they have an austere, mealy flavour, but are eaten by the Moor-fowl. The whole plant is powerfully astringent, and it stands recommended by the Pharmacopœias as a useful medicine in calculous and nephritic diseases.

Order II. DIGYNIA.

Genus CCXLI. SCLERANTHUS. *Knawel.*

Nat. Order. Scleranthæ.

Gen. Char. *Calyx* 5-cleft, with an urceolate tube. *Corolla* wanting. *Stamens* inserted upon the calyx; 5 or more frequently abortive or wanting. *Fruit* a 1- or 2-seeded capsule, covered by the hardened, persistent calyx.

These are insignificant weeds, with minute, green, axillary flowers, and opposite leaves. Their presence may generally be regarded as indicative of a barren soil.

SCLERANTHUS perennis. *Perennial Knawel.* Tab. **590.**

Calyx of the fruit with obtuse incurved segments, edged with a broad white membrane. Stems procumbent. Root perennial?

Scleranthus perennis, *E. B.* 352. *Smith* II. 283. *Lindley* 218. *Hooker ed.* 2. 190. *ed.* 3. 194.

On the driest and most barren sandy heaths in Norfolk and Suffolk this plant abounds, but is rare in other parts of the kingdom. Flowers from August to November. Though described generally as a perennial plant, in conformity with the specific name, the result of cultivation, coupled with the observation of marked wild specimens, induces us to regard it as an annual only; which, flowering late and ripening few seeds, occasionally survives to flower in a second year.

SCLERANTHUS annuus. *Annual Knawel.* Tab. **591.**

Calyx of the fruit with erecto-patent, rather acute, taper segments. Stems spreading. Root annual.

Scleranthus annuus, *E. B.* 351. *Smith* II. 282. *Lindley* 218. *Hooker ed.* 2. 190. *ed.* 3. 194.

Common in corn-fields and fallows, where the soil is poor and sandy. Though undoubtedly distinct from the preceding species, the specific characters given above do not well express that difference. The present is a more erect growing plant, and has the tube of the calyx prominently marked with 10 ribs. The flowers come out in July.

Genus CCXLII. CHRYSOSPLENIUM. *Golden-Saxifrage.*

Nat. Order. Saxifrageæ.

Gen. Char. *Calyx* superior, 4- or 5-cleft, coloured inside. *Corolla* wanting. *Stamens* 8 or 10. *Capsule* with 2 beaks, 1-celled, many-seeded.

Creeping succulent herbs, growing in moist shady woods, with notched leaves and greenish-yellow flowers. Perennial.

CHRYSOSPLENIUM oppositifolium. *Common Golden-Saxifrage.* Tab. **592.**

Leaves opposite.

Chrysosplenium oppositifolium, *E. B.* 490. *Smith* II. 260. *Lindley* 67. *Hooker ed.* 2. 190. *ed.* 3. 194.

Not unfrequent in woods and shady places on the margins of springs, especially in a boggy soil, where it forms broad patches, conspicuous from their pale yellowish hue contrasted with the surrounding herbage. Flowers from May to July.

CHRYSOSPLENIUM alternifolium. *Alternate-leaved Golden-Saxifrage.* Tab. **593.**

Leaves alternate.

Chrysosplenium alternifolium, *E. B.* 54. *Smith* II. 260. *Lindley* 66. *Hooker ed.* 2. 190. *ed.* 3. 194.

Rare in the midland and southern counties, but not unfrequent in the North of England and lowlands of Scotland. Its leaves are always alternate, one of them standing solitary about the middle of the stem, which is triangular; the rest are clustered, partly about the root, and partly near the flowers. The latter are of a deeper yellow than those of *C. oppositifolium*, and are produced in March and April.

Genus CCXLIII. SAXIFRAGA. *Saxifrage.*

Nat. Order. Saxifrageæ.

Gen. Char. *Calyx* superior or inferior, or $\frac{1}{2}$ inferior, deeply 5-lobed. *Corolla* of 5 petals. *Capsule* with 2 beaks, 2-celled, many-seeded, opening between the beaks. *Seeds* upon a receptacle attached to the dissepiment.

Herbaceous plants, almost exclusively natives of alpine regions, where they form evergreen tufts upon the margins of lakes and rivulets, in the moist crevices of the rocks, and often clothe the bleakest crags with verdure upon the limits of perpetual snow. Their inflorescence is usually paniculate, seldom solitary. Flowers white, more rarely purplish-red, or yellow, never blue.

* *Calyx reflexed, inferior. Leaves undivided. Peduncles panicled.*

SAXIFRAGA Geum. *Kidney-leaved Saxifrage.* Tab. **594.**

Leaves roundish, kidney-shaped, acutely crenate, somewhat hairy; petioles linear, channeled. Flower-stalk panicled. Capsule superior.

Saxifraga Geum, *E. B.* 1561. *Smith* II. 261. *Hooker ed.* 2. 191. *ed.* 3. 195. Robertsonia Geum, *Haworth. Lindley* 70.

This and the two following species, which nearly resemble it in habit, constitute a small group among our British *Saxifragæ*, which in a truly wild state belong only to the South of Ireland. They present so many intermediate varieties that it is difficult to assign to each its distinctive characters, and at the same time doubtful whether one at least of the three acknowledged species be not itself a variety only of one of its associates, or a hybrid. In the most common form of this plant, the petals are cream-coloured, marked at the base with a purple line terminating in a yellow stain, but destitute of the yellow and red spots, with which these parts are sprinkled in the other species; such spots, however, occur on the petals of some of the several varieties, of which the following have been observed, and by some considered even distinct species, viz.:

α. Leaves hairy on both sides, their under surface beautifully reticulated with purple.

β. Leaves glabrous on both sides, more sharply toothed. *See our figure, the most common variety. S. dentata.*

γ. Leaves light green, glabrous, and shining, sharply toothed. *S. polita.*

δ. Leaves orbicular, dark green, glabrous on both sides, petioles short. Flowers spotted with red. *S. elegans*, Mackay in Hooker's Brit. Fl.

ε. Leaves hairy on both sides, smaller. Flowers cream-coloured, spotless. Scape slender. *S. gracilis*, Mackay in Hooker's Brit. Fl.

On the mountains of Cork and Kerry not unfrequent. Flowers in June. Perennial.

SAXIFRAGA hirsuta. *Hairy oval-leaved Saxifrage.* Tab. **595.**

Leaves ovate, acutely serrated, more or less cordate at the base, hairy on each side, when full-grown erect; petioles linear. Flower-stalk panicled. Capsule superior.

Saxifraga hirsuta, *E. B.* 2322. *Smith* II. 262. *Hooker ed.* 2. 192. *ed.* 3. 195. Robertsonia hirsuta, *Haworth.* *Lindley* 71.

So near to *S. Geum* as to be scarcely recognizable apart in some of their mutual variations. The oval figure of the leaves is the chief distinction, added to which they are of a deeper green hue and stand erect, while the flowers are larger and the petals always spotted with red. It is of less frequent occurrence than the preceding in similar situations. Flowers in June. Perennial.

SAXIFRAGA UMBROSA. *London-pride. None-so-pretty.* TAB. **596.**

Leaves obovate, bluntish, quite smooth, with cartilaginous crenatures; when full-grown, spreading; petioles short, dilated. Flower-stalks panicled. Capsule superior.

Saxifraga umbrosa, *E. B.* 663. *Smith* II. 263. *Hooker ed.* 2. 192. *ed.* 3. 196. Robertsonia umbrosa, *Haworth.* *Lindley* 71.

This well-known garden plant abounds upon many of the Irish mountains, and is found likewise, though scarcely perhaps in situations truly wild, in the North of England and in Scotland. In its native sites two varieties have been observed differing in the proportions of the leaf and its serratures, and greater length of the petiole, from the plant before us, viz.:

β. Leaves roundish, with sharp tooth-like serratures, when full-grown erect; petioles long. *S. punctata.*

γ. Leaves oblong-ovate, with deep acute serratures, when full-grown erect; petioles long. *S. serrata.*

Perennial. Flowers in June. Petals white, beautifully spotted with red and yellow. As the popular name denotes, few alpine plants flourish so well amid the smoke of London.

SAXIFRAGA STELLARIS. *Starry Saxifrage.* TAB. **597.**

Leaves oblong, wedge-shaped, angularly serrated, tapering and entire towards the base. Panicle few-flowered, subcorymbose. Capsule superior.

Saxifraga stellaris, *E. B.* 167. *Smith* II. 265. *Hooker ed.* 2. 192. *ed.* 3. 196. Robertsonia stellaris, *Lindley* 71.

Plentiful in the alpine districts of the North of England, Wales, Scotland, and Ireland, on the borders of lakes and rills in a black turfy soil. The leaves spread upon the ground in a star-like form, a flower-stalk 2 to 6 inches high rising from the centre of each tuft. Petals white, with two oblong yellow spots near the base. Whole plant more or less pubescent. Perennial, flowering through the summer.

** *Calyx spreading, half-inferior. Leaves all radical, undivided. Scape erect; flowers in a cluster, or panicled.*

SAXIFRAGA NIVALIS. *Clustered alpine Saxifrage.* TAB. **598.**

Leaves roundish-obovate, acutely crenated, subcoriaceous; tapering and entire at the base. Cluster dense, capitate. Capsule half-superior.

Saxifraga nivalis, *E. B.* 440. *Smith* II. 263. *Hooker ed.* 2. 193. *ed.* 3. 196. Leiogyne nivalis, *Lindley* 68.

Found only about the summits of the highest mountains of Wales and Scotland, growing in the moist fissures of the rocks. It is a very variable plant as to size, shape of leaves, and number of flowers, but easily distinguishable in all its forms from *S. stellaris*, which in habit it somewhat resembles. Perennial. Flowers in its native regions about July and August, but under cultivation early in the spring.

**** Calyx inferior or half-inferior. Stems leafy. Leaves undivided.*

SAXIFRAGA Hirculus. *Yellow Marsh Saxifrage.* Tab. **599.**

Stem erect. Stem-leaves lanceolate, entire, alternate; those from the root attenuated below. Capsule superior.

Saxifraga Hirculus, *E. B.* 1009. *Smith* II. 267. *Hooker ed.* 2. 193. *ed.* 3. 197. Hirculus ranunculoides, *Haworth. Lindley* 67.

Spongy moors, in Cheshire, Yorkshire, Berwickshire, and in Queen's County, Ireland, produce this remarkable species, which, though rare as a British plant, and apparently confined to the middle of our island, abounds in far higher latitudes on both continents. The superior ovarium at once distinguishes it from the following. Perennial, increasing by leafy scions. Flowers bright yellow, with red dots, produced in August.

SAXIFRAGA aizoides. *Yellow Mountain Saxifrage.* Tab. **600.**

Stem branched, decumbent. Leaves linear-lanceolate, mostly edged with distant tooth-like ciliæ; scattered above, aggregate below. Capsule half-inferior.

Saxifraga aizoides, *E. B.* 39. *Smith* II. 268. *Hooker ed.* 2. 194. *ed.* 3. 197. Leiogyne azoides, *Lindley* 67.

A native of the margins of alpine rills and in springy places where the soil is a black peat, among the mountains of the North of England, Wales, Scotland, and Ireland, flowering from June to the end of autumn. Plant perennial, much branched, rooting as it extends, the flower-branches only erect, 5 to 7 inches high. Flowers few together, terminal, in a sort of corymbus, of a beautiful bright yellow, speckled with orange or scarlet.

SAXIFRAGA oppositifolia. *Purple Mountain Saxifrage.* Tab. **601.**

Leaves opposite, imbricated, ovate, ciliated. Flowers solitary, terminating the branches.

Saxifraga oppositifolia, *E. B.* 9. *Smith* II. 266. *Lindley* 68. *Hooker ed.* 2. 193. *ed.* 3. 197.

A native of the highest alpine rocks on the Snowdon range, on Ingleborough, and on the Highlands of Scotland. Its trailing branches strike roots into the crevices of the most abrupt precipices, and cover their perpendicular sides with a glowing tapestry; that is, however,

seldom seen in its greatest beauty, owing to the earliness of the flowering-season, which follows in those elevated regions the first melting of the snow. It is a perennial, and remains green through the winter. The abundance in which its fine purple flowers are developed in the early spring has long rendered it a favourite in cultivation. The figure, taken from a garden specimen, represents a more luxuriant state of the plant than is usually met with on its native mountains.

**** *Leaves more or less lobed. Flowering stems erect, more or less leafy.*

SAXIFRAGA GRANULATA. *White Meadow Saxifrage.* TAB. **602.**

Leaves kidney-shaped, lobed; lower ones on long petioles, upper nearly sessile. Stem panicled. Root granulated.

Saxifraga granulata, *E. B.* 500. *Smith* II. 269. *Hooker ed.* 2. 194. *ed.* 3. 197. Leiogyne granulata, *Lindley* 68.

In meadows and pastures on a gravelly soil this species sometimes grows abundantly, increasing by seed and by the small granular tubers of the root; but it is rather a local than a common plant. The flowers, which are white, appear in May and June, terminating a stem from 6 inches to a foot in height in an irregular panicle. The whole herb is clothed with reddish, glandular hairs, which are viscid to the touch, especially on the calyx and flower-stalks. Leaves somewhat succulent. Capsule half-inferior. A variety with double flowers is common in gardens.

SAXIFRAGA CERNUA. *Drooping Bulbous Saxifrage.* TAB. **603.**

Leaves palmato-lobate, stalked; upper ones sessile, subtrifid. Stem simple, with one terminal flower, and numerous, aggregate, axillary bulbs. Capsule superior.

Saxifraga cernua, *E. B.* 664. *Smith* II. 276. *Hooker ed.* 2. 194. *ed.* 3. 198. Leiogyne cernua, *Lindley* 68.

Grows only on the rocky summits of the loftiest mountains of Scotland, where it flowers from June to August. Stem 3 to 5 inches high, leafy, terminating usually in a solitary, drooping, white flower. Leaves nearly smooth, rather succulent; the upper ones bear in their axils clusters of little, reddish, scaly bulbs, that eventually drop off and vegetate. Perennial.

SAXIFRAGA RIVULARIS. *Alpine Brook Saxifrage.* TAB. **604.**

Leaves palmato-lobate, stalked; the uppermost spatulate. Stem slender, branched, few-flowered. Root fibrous. Capsule half-inferior.

Saxifraga rivularis, *E. B.* 2275. *Smith* II. 271. *Hooker ed.* 2. 194. *ed.* 3. 198. Leiogyne rivularis, *Lindley* 68.

A rare inhabitant of the Highlands of Scotland, near alpine rills, and in the moist fissures of rocks. A creeping-rooted perennial,

flowering from July to September. Stems decumbent at the base, 2 or 3 inches high, slightly downy and viscid. Leaves smooth, rather fleshy, 3- to 5-lobed, on long stalks; the upper ones mostly entire, and sessile. Flowers white.

SAXIFRAGA TRIDACTYLITES. *Rue-leaved Saxifrage.* TAB. **605.**

Leaves wedge-shaped, 3- or 5-cleft, alternate; the uppermost undivided. Stem erect, panicled. Pedicels single-flowered. Capsule inferior.

Saxifraga tridactylites, *E. B.* 501. *Smith* II. 271. *Lindley* 68. *Hooker ed.* 2. 195. *ed.* 3. 198.

Common on walls, thatched roofs, and dry, barren places in most parts of England, but less frequent in Scotland. It is an annual, varying much in height and luxuriance in different situations. The whole plant is clothed with reddish, glandular, viscid hairs, and usually assumes a crimson hue, especially as it approaches maturity. Flowers small, with pure white petals, scarcely longer than the lobes of the calyx; they appear in May and June.

SAXIFRAGA MUSCOIDES. *Mossy Alpine Saxifrage.* TAB. **606.**

Radical leaves aggregate, thin, linear, obtuse, entire (or trifid?). Stems nearly naked, terminating in a few-flowered corymbus. Petals oblong, obtuse, a little longer than the superior calyx.

Saxifraga moschata, *E. B.* 2314. Saxifraga pygmæa, *Smith* II. 273. *Lindley* 68. Saxifraga muscoides, *Hooker ed.* 2. 195. *ed.* 3. 202.

Some confusion exists as to the identity of this pretty little Saxifrage, as indicated by the diversity of its synonyms, but we agree with Professor Hooker in regarding the British plant as not specifically distinct from the *S. muscoides* of Wulfen, though deficient of the frequently trilobate leaves which are met with in foreign specimens of the species. A native of the Highlands of Scotland, where it forms perennial tufts, and flowers in May and June. The whole herb is glutinous, being clothed with glandular hairs, and is said to have a musky smell in warm weather, which however we have not perceived in it under cultivation. Flowers buff-coloured. Petals with 3 veins above their base. Stems 2 to 3 inches high.

SAXIFRAGA CÆSPITOSA. *Palmate Saxifrage.* TAB. **607.**

Radical leaves crowded, hairy, palmate, 3- or 5-cleft; segments obtuse; lowermost undivided. Shoots ascending. Panicle dense, few-flowered. Capsule half-inferior, hairy. Calyx smoother, obtuse. Petals roundish, triple-veined.

Saxifraga palmata, *E. B.* 455. *Smith* II. 274. S. cæspitosa β, *Lindley* 69. *Hooker ed.* 2. 195. *ed.* 3. 201. S. decipiens, *Ehrhart.*

With this species, which was long considered distinct from the *S. cæspitosa* of Linnæus, we commence a series of alpine plants that, like those of the first section, approach each other so nearly in general features that it is scarcely possible to decide upon their distinctive

characters. Under cultivation we have not found the present plant to vary greatly from its character when wild; it has certainly never shown with us any tendency to develop the long, procumbent shoots which distinguish the following species and their innumerable varieties. Native of the highest mountains of Wales and Ireland. Perennial. Flowers yellowish white, produced in May and June. Stems hairy, viscid above.

S. cæspitosa, *E. B.* 794, is only a smaller variety of the same species. See Tab. 607*.

SAXIFRAGA HIRTA. *Trifid Hairy Saxifrage.* TAB. **608.**

Radical leaves crowded, 3- or 5-cleft; segments elliptical, acute, fringed with hairs. Shoots somewhat ascending. Panicle lax, few-flowered, corymbose. Calyx acute. Petals obovate, triple-veined.

Saxifraga hirta, *E. B.* 2291. *Smith* II. 275. *Lindley* 69. S. hypnoides β, *Hooker ed.* 2. 197. *ed.* 3. 199.

This, and all of the succeeding, with the exception of *S. pedatifida*, may probably be varieties of one species; but as the point is yet far from being established, and considerable difference in habit is discernible in some instances, we are so far disposed to accord with the opinion of those botanists who consider them distinct as to retain the original figures, trusting to future research to confirm the identity or establish the specific distinctions of the series. Found on the mountains of Wales, Scotland, and Ireland. Perennial. Flowers in June and July.

SAXIFRAGA PLATYPETALA. *Broad-petaled Saxifrage.* TAB. **609.**

Leaves 3- or 5-cleft; segments more linear, bristle-pointed, more or less hairy. Shoots procumbent. Segments of the calyx ovate. Petals nearly orbicular, triple-veined; the middle vein simple, the 2 outer branched laterally.

Saxifraga platypetala, *E. B.* 2276. *Lindley* 69. S. hypnoides β, *Hooker ed.* 2. 197. *ed.* 3. 199.

This plant, though confounded by Dr. Hooker with the preceding as a variety of *S. hypnoides*, is very distinct in its habit; the segments of the leaves being almost linear, the shoots procumbent, the sepals and petals broader in proportion to their length, and the lateral veins of the latter sending off externally many small irregular branches. On Snowdon and others of the Welsh mountains plentiful, and likewise in Scotland, forming distinct tufts, and seldom in the same places with *S. hypnoides*. Perennial. Flowers from May to July. Specimens from the neighbourhood of Llanberris were not altered by cultivation for several years, and produced new plants from seed in no respect differing from the wild one.

SAXIFRAGA HYPNOIDES. *Mossy Saxifrage. Ladies' Cushion.* TAB. **610.**

Radical leaves 3- or 5-cleft; those of the long, procumbent shoots

undivided; all bristle-pointed, and fringed. Segments of the calyx ovate, pointed. Petals oblong, triple-veined.

Saxifraga hypnoides, *E. B.* 454. *Smith* II. 277. *Lindley* 69. *Hooker ed.* 2. 196. *ed.* 3. 198.

Common on the mountains of Wales, Scotland, Ireland, and the North of England, in black turfy soil on the borders of lakes, and in the moist clefts of the rocks, flowering from May to July. Perennial. *S. condensata* is evidently a variety of this.

SAXIFRAGA AFFINIS. *Involute Alpine Saxifrage.*

Radical leaves 5-cleft; those of the trailing shoots mostly 3-cleft; lobes linear, pointed. Segments of the calyx awl-shaped, channeled, pointed, recurved. Petals oblong, inflexed at the edges.

Saxifraga affinis, *Don. Smith* II. 275. *Lindley* 69. *Hooker ed.* 2. 198. *ed.* 3. 200.

On the top of Brandon mountain, Kerry, Ireland. Perennial. Flowers in May and June.

SAXIFRAGA INCURVIFOLIA. *Curve-leaved Saxifrage.*

Radical leaves 5-cleft; those of the trailing shoots 3-cleft; segments lanceolate, obtuse, incurved. Segments of the calyx ovate, acute. Petals roundish, slightly cloven.

Saxifraga incurvifolia, *Don. Smith* II. 176. *Lindley* 69. *Hooker ed.* 2. 198. *ed.* 3. 200.

On alpine rocks in Ireland. Perennial.

SAXIFRAGA DENUDATA. *Smooth Grampian Saxifrage.*

Radical leaves 5-cleft; those of the trailing shoots 3-cleft; segments linear-awl-shaped, acute. Segments of the calyx lanceolate, minutely pointed. Petals obovate, notched.

Saxifraga denudata, *Don. Lindley* 69. *Hooker ed.* 2. 198. *ed.* 3. 200.

Mountains of Angusshire. Perennial.

SAXIFRAGA LEPTOPHYLLA. *Fine-leaved Alpine Saxifrage.*

Radical leaves deeply 5-cleft; those of the procumbent shoots deeply 3-cleft, or undivided; lobes linear-lanceolate, very acute, widely spreading. Calyx segments oblong-ovate. Petals elliptical, triple-veined, entire.

Saxifraga leptophylla, *Persoon. Smith* II. 279. *Lindley* 70. S. hypnoides δ, *Hooker ed.* 2. 197. *ed.* 3. 199.

Found on the Welsh mountains. Perennial. Flowers in May.

SAXIFRAGA LÆTEVIRENS. *Bright-green Alpine Saxifrage.*

Shoots very long and trailing. Leaves 5- or 3-parted; segments linear, acute. Calyx segments lanceolate, mucronate. Petals spatulate, cloven.

Saxifraga lætevirens, *Don. Smith* II. 280. *Lindley* 70. *Hooker ed.* 2. 198. *ed.* 3. 200.

On the mountains of Angusshire, Aberdeenshire, and North of Loch Lomond. Perennial. Its claims to rank as a species are at present very doubtful, as are those of the unfigured kinds above described.

SAXIFRAGA ELONGELLA. *Long-stalked Saxifrage.* TAB. **611.**

Radical leaves 3- or 5-cleft; those of the upright short shoots 3-cleft, or undivided; all bristle-pointed, slightly fringed. Primary flower-stalks very long, simple, naked. Calyx segments pointed. Petals obovate.

Saxifraga elongella, *E. B.* 2277. *Smith* II. 279. *Hooker ed.* 2. 198. *ed.* 3. 200. S. hypnoides γ, *Lindley* 70.

On moist rocks, near Lintrathen, Angusshire. Perennial. Flowers in May. A doubtful species, very near *S. hypnoides.*

SAXIFRAGA PEDATIFIDA. *Pedatifid-leaved Saxifrage.* TAB. **612.**

Radical leaves and those of the upright sterile shoots upon very long petioles; divided deeply into 3 spreading segments, the 2 lateral ones 2- or 3-lobed; segments acute, linear-lanceolate. Panicle cymose. Calyx superior.

Saxifraga pedatifida, *E. B.* 2278. *Smith* II. 280. *Lindley* 70. *Hooker ed.* 2. 199. *ed.* 3. 202.

The largest and most distinct of our tufted alpine Saxifrages. Found on the Highland mountains, flowering in May. The whole plant is pubescent, slightly viscid, and more rigid in its habit than the other British species of its section, with none of which could it by any possibility be confounded. Flowers proportionally small, white.

GENUS CCXLIV. SAPONARIA. *Soapwort.*

Nat. Order. CARYOPHYLLEÆ.

GEN. CHAR. *Calyx* inferior, tubular, 5-toothed, without bracteas at the base. *Petals* 5, with claws. *Capsule* oblong, 1-celled.

Herbaceous plants with opposite, entire leaves, and generally reddish flowers. The want of scales at the base of the calyx distinguishes this from the next genus.

SAPONARIA OFFICINALIS. *Common Soapwort.* TAB. **613.**

Calyx cylindrical. Leaves ovato-lanceolate.

Saponaria officinalis, *E. B.* 1060. *Smith* II. 284. *Lindley* 45. *Hooker ed.* 2. 199. *ed.* 3. 203.

A perennial plant, growing in shady and rather moist situations, about hedges and thickets, on the margins of rivers, and even in meadows, in many parts of the kingdom. Stems cylindrical, about 18 inches high, each terminating in a roundish panicle of handsome

blush-coloured flowers, which expand about August and September, and have a sweetish though scarcely agreeable scent. Leaves 3-ribbed, connate. Limb of the petals obcordate; claws 4-winged. A variety with double flowers is common in gardens; another, having a monopetalous corolla, has been met with on the sand-hills to the north of Liverpool. The name is derived from a property in the herb of forming a soap-like lather with water.

Genus CCXLV. DIANTHUS. *Pink and Carnation.*

Nat. Order. Caryophylleæ.

Gen. Char. *Calyx* inferior, tubular, 5-toothed, with about 4 imbricated, opposite scales or bracteas at the base. *Petals* 5, with claws. *Capsule* cylindrical, 1-celled.

Plants chiefly herbaceous, rarely suffruticose, with jointed stems, and opposite, connate, entire leaves. Flowers various shades of red and purple, sometimes white or yellow. The name *Dianthus*, literally "Divine flower," was conferred in allusion to the beauty and rich fragrance of the cultivated species.

* *Flowers aggregate.*

DIANTHUS Armeria. *Deptford Pink.* Tab. **614.**

Flowers clustered, fascicled. Bracteas lanceolate, downy, as long as the calyx.

Dianthus Armeria, *E. B.* 317. *Smith* II. 286. *Lindley* 44. *Hooker ed.* 2. 200. *ed.* 3. 203.

Common on the borders of woods and thickets, sometimes in pastures, in a gravelly soil. Stems 12 to 18 inches high, branched dichotomously above; the branches straight, terminated by clusters of small scentless flowers, of which there is seldom more than one expanded at a time in each cluster. Petals rose-coloured, with white dots; toothed at the margin. Annual. Flowers from July to September.

DIANTHUS prolifer. *Proliferous Pink.* Tab. **615.**

Flowers clustered, capitate. Bracteas ovate, blunt, membranous, overtopping the calyx.

Dianthus prolifer, *E. B.* 956. *Smith* II. 286. *Lindley* 44. *Hooker ed.* 2. 200. *ed.* 3. 203.

A rare species, hitherto found on gravelly pastures in not more than four places in England, viz. Selsey Island, Sussex; near Norwich and Hampton Court; and at Hanby Castle, Worcestershire. It is an annual, flowering in July. Stems erect, slender, little branched. Flowers terminal, dark purple; so closely enveloped in the dry, brown, membranous bracts, as to appear at first sight solitary, one only opening at a time. Petals notched, fugacious.

** *Flowers solitary; several on the same stem.*

DIANTHUS Caryophyllus. *Clove Pink. Carnation. Clove Gillyflower.* Tab. **616.**

Stems branched. Leaves linear-subulate, grooved, glaucous. Flowers solitary. Bracteas very short, almost rhomboidal. Petals toothed.

Dianthus Caryophyllus, *E. B.* 214. *Smith* II. 287. *Lindley* 44. *Hooker ed.* 2. 200. *ed.* 3. 203.

Supposed to be the origin of the highly-prized Carnation of our gardens, but an exceedingly variable plant as to size, colours, and proportions. It is plentiful on old walls and ruins in several parts of the kingdom, especially on Rochester and other castles in Kent. The root is perennial, running deep into the mortar, and producing several tufts of channeled glaucous leaves, finely denticulated a little above the base. Petals sometimes bearded near the throat, forming a sort of corona; irregularly notched. Flowers in July.

DIANTHUS deltoides. *Maiden Pink.* Tab. **617.**

Stems branched, procumbent. Leaves bluntish, somewhat downy. Flowers solitary. Bracteas mostly 2, ovato-lanceolate, acute. Petals crenate, glabrous.

Dianthus deltoides, *E. B.* 61. *Smith* II. 288. *Lindley* 44. *Hooker ed.* 2. 200. *ed.* 3. 204.

Perennial. In sandy soils not uncommon, growing prostrate among the grass and other herbs on the borders of fields, hedge-banks, and heaths, where it flowers from July to October. The petals vary from white to pink, and even deep red speckled with white, but always present a ring of dark crimson dots inclosing a white eye in the centre of the flower. The white-flowered variety is common in cultivation, but rare in a wild state: it is the *D. glaucus* of Linnæus, but the more glaucous leaves and the 4 bracteal scales, which are its chief distinctions, are not unfrequent in the more common state of the plant.

*** *Stems single-flowered.*

DIANTHUS cæsius. *Mountain Pink.* Tab. **618.**

Stems single-flowered. Bracteas short, roundish. Petals unequally notched, bearded. Leaves scabrous on the margin.

Dianthus cæsius, *E. B.* 62. *Smith* II. 288. *Lindley* 44. *Hooker ed.* 2. 201. *ed.* 3. 204.

Found only on the limestone rocks of Chedder, Somersetshire. Perennial. Leaves very glaucous, finely serrated with semitransparent glands on the margins. Flowers large, fragrant, of a delicate blush-colour; appearing in July and August.

Order III. TRIGYNIA.

Genus CCXLVI. CUCUBALUS. *Campion.*

Nat. Order. Caryophylleæ.

Gen. Char. *Calyx* 5-toothed, inflated. *Petals* 5, unguiculate; mouth naked. *Berry* 1-celled, many-seeded.

The succulent berry-like fruit distinguishes it from the following genus *Silene*.

CUCUBALUS baccifer. *Berry-bearing Chickweed.* Tab. **619.**

Cucubalus baccifer, *Linn. E. B.* 1577.

A creeping-rooted perennial, with weak, straggling stems. Grows in hedges, flowering in June and July. A native of the South of Europe, and admitted into our Flora on the authority of Dillenius, who received it from Anglesey, but probably not a wild specimen, as it seems not to have been found so by any other botanist.

Genus CCXLVII. SILENE. *Catchfly.*

Nat. Order. Caryophylleæ.

Gen. Char. *Calyx* tubular, 5-toothed. *Petals* 5, unguiculate, mostly crowned with scales at the mouth; the limb generally bifid. *Capsule* 3-celled at the base, opening at the apex with six teeth; many-seeded.

Herbaceous plants, nearly resembling in habit those of the genus *Dianthus* in the preceding Order. Some are highly ornamental, others mere weeds. Flowers various shades of white, red, or purple, never blue or bright yellow. The English name, and probably the Latin, is derived from a viscid secretion on the upper joints of the stalks of many species, by which ants and small flies are often entrapped.

* *Flowers in a forked panicle, or solitary. Calyx inflated, bladder-like.*

SILENE inflata. *Bladder Campion.* Tab. **620.**

Flowers numerous, drooping, panicled. Petals deeply cloven, with narrow segments; the coronal scales mostly wanting. Calyx smooth, inflated, reticulated. Leaves ovato-lanceolate. Stem erect.

Cucubalus Behen, *Linn. E. B.* 164. Silene inflata, *Smith* II. 292. *Lindley* 45. *Hooker ed.* 2. 201. *ed.* 3. 204.

A very common plant in corn-fields, pastures, and by way-sides, especially in chalky and calcareous soils. Stem and leaves very glaucous, the latter somewhat fleshy. Calyx beautifully veined with purple and green. Petals pure white. Perennial. Flowers from June to September. The young shoots and leaves when boiled are not unlike green peas in flavour, and would form a delicate table vegetable.

A variety, having the stem, leaves, and calyx downy, is sometimes met with.

SILENE MARITIMA. *Sea Campion.* TAB. **621.**

Flowers solitary, or slightly panicled, terminal. Petals with a shallow cleft, broad segments, and cloven coronal scales. Calyx smooth, inflated, reticulated. Leaves lanceolate, or spatulate, more or less ciliated at the margin. Stems recumbent.

Silene maritima, *E. B.* 957. *Smith* II. 293. *Lindley* 45. *Hooker ed.* 2. 201. *ed.* 3. 205.

Nearly allied to the preceding, and by some botanists considered only a variety; but though variable in luxuriance, and especially in the number of its flowers, long cultivation of both species induces us to regard them as distinct. The present, as its name imports, is most frequent on sandy and rocky sea-coasts, but is often met with far inland in alpine districts, flourishing about the margins of mountain torrents. Flowers from June to September. Perennial.

** *Flowers in leafy racemes, alternate, erect.*

SILENE ANGLICA. *English Catchfly.* TAB. **622.**

Hairy, viscid. Petals slightly cloven, with coronal scales. Teeth of the calyx setaceous. Lower capsules spreading or reflexed.

Silene anglica, *E. B.* 1178. *Smith* II. 291. *Lindley* 45. *Hooker ed.* 2. 202. *ed.* 3. 205.

An annual species, met with in many parts of the kingdom, on arable land where the soil is light, sandy, or gravelly, but still not common. It is one of the most inconspicuous of its genus, the petals being small and fugacious, of a dingy white hue, sometimes with a tinge of pink toward the centre. Flowers in June and July.

SILENE QUINQUEVULNERA. *Variegated Catchfly.* TAB. **623.**

Hairy. Limb of the petals roundish, entire, with coronal scales. Capsules all erect.

Silene quinquevulnera, *E. B.* 86. *Smith* II. 292. *Lindley* 45. *Hooker ed.* 2. 202. *ed.* 3. 205.

Probably a wanderer from gardens, in which its prettily variegated flowers are often seen, but rare in an apparently wild state. A sandy soil seems its natural habitat. Mr. Hudson introduced it in his Flora Anglica as a native of sandy corn-fields about Wrotham, Kent; we have met with it in similar situations near Shorne and Cobham in the

same county; near Worthing, Sussex; and on Duppa's Hill, Croydon. Annual. Flowers from June to August. The name *quinquevulnera* is derived from the five blood-coloured spots in the centre of each flower.

**** Flowers diœcious; in whorled racemes.*

SILENE Otites. *Spanish Catchfly.* Tab. **624.**

Flowers diœcious. Petals linear, entire. Leaves spatulate, roughish. Stem erect, few-leaved.

Cucubalus Otites, *Linn.* *E. B.* 85. Silene Otites, *Smith* II. 298. *Lindley* 46. *Hooker ed.* 2. 201. *ed.* 3. 205.

This species grows only in open, dry, sandy or gravelly fields, and is almost peculiar to the counties of Norfolk, Suffolk, and Cambridge. Although generally diœcious, the flowers of the male plant frequently present abortive pistils, as do those of the female imperfect stamens. Perennial, tufted, the flowering stems rising from 6 inches to a foot or more in height, according with that of the grass among which it grows. Flowers in July and August.

***** Panicle more or less forked, leafy. Calyx not bladdery.*

SILENE nutans. *Nottingham Catchfly.* Tab. **625.**

Flowers in a drooping, unilateral panicle. Petals deeply cloven, with linear segments, and acute, cloven coronal scales. Calyx cylindrical, or slightly ventricose. Stem-leaves lanceolate, pubescent.

Silene nutans, *E. B.* 465. *Smith* II. 296. *Lindley* 46. *Hooker ed.* 2. 202. *ed.* 3. 206.

Grows on limestone rocks in several parts of the kingdom, as at Orme's Head, Caernarvonshire; Knaresborough, Yorkshire; Dove Dale, Derbyshire; about Nottingham and Dover; and likewise in Scotland. A sombre looking, but certainly an elegant plant in its natural place of growth; the graceful curve of the flower-stem is not expressed in our figure. Perennial. Flowers in June and July.

SILENE patens. *Dover Catchfly.* Tab. **625*.**

Panicle nearly erect, viscid. Stamens scarcely exserted. Petals deeply obcordate, with broad segments, naked. Calyx long, clavate. Radical leaves spatulate, on long stalks; those of the stem sessile.

Silene patens, *E. B. Supp.* 2748. S. paradoxa, *Smith.* S. nutans *β. Lindley* 46. *Hooker ed.* 2. 202. S. italica, *Hooker ed.* 3. 206.

On the cliffs about Dover this species has been observed ever since the publication of Ray's Synopsis, but its distinctness from the preceding is very doubtful. The only character of importance is the long, clavate calyx, as the length of the stamens and breadth of the segments of the corolla will vary in the same specimen, and even coronal scales be occasionally developed. Perennial. Flowers in June and July.

SILENE CONICA. *Corn Catchfly.* TAB. **626.**

Panicle dichotomous. Petals bifid, with coronal scales. Calyx, when in fruit, conical, with 30 furrows. Leaves linear, downy, as well as the stem.

Silene conica, *E. B.* 922. *Smith* II. 294. *Lindley* 45. *Hooker ed.* 2. 202. *ed.* 3. 206.

A rare annual, almost peculiar to Kent, where it has been known to grow in the vicinity of Sandown Castle since the time of Dillenius, the most barren sandy spots seeming its natural habitats. The calyx, at first nearly cylindrical, enlarges at the base with the growth of the capsule, and becomes nearly conical. Flowers small, purple, appearing in July.

SILENE NOCTIFLORA. *Night-flowering Catchfly.* TAB. **627.**

Panicle dichotomous. Petals cloven, with abrupt, cloven coronal scales. Calyx with 10 hairy, connected ribs; its teeth linear, almost as long as the tube. Leaves lanceolate, lower ones spatulate.

Silene noctiflora, *E. B.* 291. *Smith* II. 295. *Lindley* 46. *Hooker ed.* 2. 203. *ed.* 3. 206.

Grows in sandy fields, and among corn, in many parts of the kingdom, but chiefly in the midland and southern counties, and even there is not very common. It is an annual, from 1 to 2 feet high, and flowers in July. The whole plant is downy, and somewhat viscid, especially the flower-stalks. Petals pale pink, or white, rolled inwards during the day, but expanding towards evening, at which time the flowers become very sweet-scented.

***** *Panicle dichotomous, corymbose. Calyx clavate.*

SILENE ARMERIA. *Common, or Lobel's Catchfly.* TAB. **628.**

Panicles forked, level-topped, many-flowered. Petals notched, each with a double awl-shaped coronal scale. Calyx clavate, smooth. Leaves ovato-lanceolate, glabrous. Stem viscid.

Silene Armeria, *E. B.* 1398. *Smith* II. 296. *Lindley* 46. *Hooker ed.* 2. 203. *ed.* 3. 206.

A very common garden annual, but a doubtful native, although its minute seeds are occasionally distributed far from the haunts of cultivation. The clavate form of the calyx is in consequence of the germen being elevated upon a stalk towards the mouth of the corolla. Flowers pink or purplish; they come out in July and August.

****** *Stems tufted, short. Peduncles single-flowered.*

SILENE ACAULIS. *Moss Campion.* TAB. **629.**

Cæspitose. Leaves linear, ciliated at the base. Peduncles solitary, single-flowered. Petals with coronal scales, slightly emarginate.

Silene acaulis, *E. B.* 1081. *Smith* II. 299. *Lindley* 46. *Hooker ed.* 2. 201. *ed.* 3. 204.

One of the gems of our alpine Flora. It grows chiefly towards the summits of the highest mountains, where it forms a thick carpet or tapestry-like turf of rich green, beautifully dotted with bright purple or rose-coloured flowers, which appear in June and July. Perennial. On the mountains of Scotland, where this plant abounds, the flowers are sometimes white.

Genus CCXLVIII. STELLARIA. *Stitchwort.*

Nat. Order. Caryophylleæ.

Gen. Char. *Calyx* 5-leaved. *Petals* 5, deeply cloven. *Capsule* 1-celled, opening with 6 teeth; many-seeded.

Slender straggling herbs, growing generally in moist situations in woods and among bushes. Flowers always white.

STELLARIA nemorum. *Wood Stitchwort.* Tab. **630.**

Lower leaves cordate, petiolate; upper ones ovate, sessile. Panicle dichotomous.

Stellaria nemorum, *E. B.* 92. *Smith* II. 300. *Lindley* 52. *Hooker ed.* 2. 203. *ed.* 3. 207.

Moist woods in the northern counties of England, and Lowlands of Scotland frequently present this species, which, though likely to be passed over as a luxuriant variety of the Common Chickweed, is rare in the southern parts of the island. A perennial, flowering in May and June. Stems 12 to 18 inches high, hairy above. Leaves more or less ciliated and slightly rough on the upper face with minute elevated glands.

STELLARIA media. *Common Chickweed.* Tab. **631.**

Leaves ovate. Stems procumbent, with an alternate line of hairs on one side. Stamens 5 to 10.

Stellaria media, *E. B.* 537. *Smith* II. 301. *Lindley* 52. *Hooker ed.* 2. 203. *ed.* 3. 207. Alsine media, *Linn.*

A common weed in all soils and situations, but exhibiting numerous variations in habit, two of which are figured on our plate. The remarkable unilateral hairy lines which run along the stem from joint to joint alternately, distinguish this plant from all others with which it is liable to be confounded. An annual, but springing rapidly from seed, and flowering throughout the year. It is a good esculent when boiled like spinach. Small birds are fond of the seeds, and the whole herb is eaten by poultry.

STELLARIA Holostea. *Greater Stitchwort.* Tab. **632.**

Stems nearly erect. Leaves lanceolate, acuminate, very finely serrulated. Petals inversely heart-shaped. Calyx ribless.

Stellaria Holostea, *E. B.* 511. *Smith* II. 301. *Lindley* 52. *Hooker ed.* 2. 203. *ed.* 3. 207.

Very frequent in groves and about hedges, where its brilliant white starry blossoms render it very conspicuous in the spring. A creeping-rooted perennial, with slender, but rather rigid stems, and sessile leaves. Flowers in a forked leafy panicle, terminal: they appear in May.

STELLARIA GRAMINEA. *Lesser Stitchwort.* TAB. **633.**

Stems nearly erect. Leaves linear-lanceolate, entire, rather glaucous. Panicle terminal, divaricate. Calyx 3-ribbed, nearly equal to the petals.

Stellaria graminea, *E. B.* 803. *Smith* II. 302. *Lindley* 52. *Hooker ed.* 2. 204. *ed.* 3. 207.

A much more slender plant than the last, with shorter leaves, and smaller flowers, which in the months of June and July very copiously bespangle the furze bushes, heath, and broom on a gravelly or sandy soil. Perennial. Root creeping.

STELLARIA GLAUCA. *Glaucous Marsh Stitchwort.* TAB. **634.**

Stem nearly erect. Leaves linear-lanceolate, entire, glaucous. Flowers on long, solitary, axillary footstalks; petals nearly twice as long as the 3-ribbed calyx.

Stellaria glauca, *E. B.* 825. *Smith* II. 303. *Lindley* 52. *Hooker ed.* 2. 204. *ed.* 3. 207.

This species is occasionally found in moist meadows and on the borders of ponds and ditches in a gravelly soil, but may be regarded as a local rather than a common plant. In habit it resembles the two preceding, but the ribbed calyx and smooth leaves distinguish it at once from *S. Holostea*, and the disposition of the flowers, larger petals and very glaucous hue of the foliage from *S. graminea*. Flowers in June and July. Perennial.

STELLARIA ULIGINOSA. *Bog Stitchwort.* TAB. **635.**

Leaves elliptic-lanceolate, entire, with a callous tip. Flowers in an irregular dichotomous panicle. Petals shorter than the leaves of the calyx, which are united at the base.

Stellaria uliginosa, *E. B.* 1074. *Smith* II. 303. *Hooker ed.* 2. 204. *ed.* 3. 208. Larbræa aquatica, *St. Hilaire. Lindley* 52.

Frequent in ditches and rivulets, flowering plentifully in June. Annual. Herb perfectly smooth, with the habit of *S. media*. Flowers smaller than in any other native species, with the calyx entire at the base and slightly urceolate. Petals and stamens perigynous.

STELLARIA SCAPIGERA. *Many-stalked Stitchwort.* TAB. **636.**

Stem shorter than the flower-stalks. Leaves linear-lanceolate, roughly ciliated on the margin, crowded. Calyx 3-nerved, the length of the petals.

Stellaria scapigera, *E. B.* 1269. *Smith* II. 304. *Lindley* 52. *Hooker ed.* 2. 205. *ed.* 3. 208.

A rare species, growing in moist places on some of the mountains of Scotland. Perennial. Flowers in June.

STELLARIA CERASTOIDES. *Alpine Stitchwort.* TAB. **637.**

Stems decumbent, with an alternate hairy line. Leaves elliptic-oblong, bluntish, with callous tips. Peduncles 2 or 3, terminal, hairy. Calyx downy, half as long as the petals.

Stellaria cerastoides, *E. B.* 911. *Smith* II. 305. *Lindley* 53. *Hooker ed.* 2. 204. *ed.* 3. 208.

A native of the Highland mountains. Perennial. Flowers in June. The number of the styles and valves of the capsule varies, the former from 3 to 5, and the latter from 6 to 10.

GENUS CCXLIX. ARENARIA. *Sandwort.*

Nat. Order. CARYOPHYLLEÆ.

GEN. CHAR. *Calyx* 5-leaved. *Petals* 5, entire. *Capsule* 1-celled, opening with 3 or 6 teeth: many-seeded.

A genus of small herbaceous plants, attaching chiefly to dry, sandy situations, and alpine rocks. The flowers of the British species are small and inconspicuous, but the seeds of many are beautiful objects for the microscope. Petals white, or less frequently, reddish purple.

* *Leaves with membranous stipules.*

ARENARIA RUBRA. *Purple Sandwort.* TAB. **638.**

Stems prostrate. Leaves linear, plane, bristle-pointed; stipules membranous, sheathing. Capsule equal to the calyx. Seeds compressed, angular, roughish.

Arenaria rubra, *E. B.* 852. *Smith* II. 311. *Lindley* 50. *Hooker ed.* 2. 207. *ed.* 3. 210.

One of the most common species, growing abundantly in sandy fields and on dry heaths and waste grounds, which are often copiously bespangled with its bright purple flowers through the hottest summer months. The root is small and annual, sending out many branched stems, which are slightly tumid at the joints, and spread in a circular form close to the ground. Peduncles arising from the axils of the upper leaves, solitary; usually bent back after flowering.

ARENARIA MARINA. *Sea Sandwort. Sea Spurrey.* TAB. **639.**

Stems prostrate. Leaves semicylindrical, fleshy, awnless. Stipules membranous, sheathing. Capsule longer than the calyx. Seeds compressed, smooth, with a broad membranous pellucid border.

Arenaria marina, *E. B.* 958. *Smith* II. 311. *Lindley* 50. *Hooker ed.* 2. 207. *ed.* 3. 211. A rubra β, *Linn.*

Common on most parts of the British coasts, flowering from June to September. Habit that of the last species, of which it is perhaps only a variety occasioned by situation. The present is a larger plant, whose fleshy pointless leaves, lengthened capsules, and smooth, winged seeds, seem sufficiently to distinguish; but the last, the most important character, is said to vary. Annual or biennial.

** *Leaves without stipules.*

ARENARIA PEPLOIDES. *Sea Chickweed. Sea Sandwort.* TAB. **640.**

Glabrous. Leaves ovate, acute, fleshy, connate. Calyx obtuse, ribless.

Arenaria peploides, *E. B.* 189. *Smith* II. 306. *Lindley* 49. *Hooker ed.* 2. 205. *ed.* 3. 209.

A perennial plant, with creeping stems, and erect, leafy branches, which bear a few small, nearly sessile, white flowers in the axils of the terminal leaves. Germen surrounded by a row of 10 yellowish glands, alternating with the stamens. Abundant upon most of our sandy sea-shores, flowering in July. Habit very different from the rest of the Arenarias. Flowers irregular in their development, often dicœcious.

ARENARIA TRINERVIS. *Plantain-leaved Sandwort.* TAB. **641.**

Downy. Leaves ovate, acute, ciliated, ribbed, petiolate. Calyx obscurely 3-ribbed, rough on the keel.

Arenaria trinervis, *E. B.* 1483. *Smith* II. 307. *Lindley* 49. *Hooker ed.* 2. 205. *ed.* 3. 209.

An annual, growing in moist woods and bushy places, and flowering in May and June. Stems erect, about a foot high, slender, with forked branches. Leaves mostly 3-veined. Flowers solitary, on long stalks, proceeding from the upper forks of the stem. Petals white, shorter than the acute-leaved calyx. Capsule opening with 6 revolute teeth. Seeds black, smooth. Habit of the plant that of *Stellaria media.*

ARENARIA SERPYLLIFOLIA. *Thyme-leaved Sandwort.* TAB. **642.**

Scabrous. Leaves ovate, acute, sessile. Calyx hairy, its 3 outer leaves 5-ribbed.

Arenaria serpyllifolia, *E. B.* 923. *Smith* II. 307. *Lindley* 49. *Hooker ed.* 2. 205. *ed.* 3. 209.

Common everywhere on walls and barren waste places, flowering from May to July. Annual. Branches from the root numerous, 2 to 4 inches high, rigid, somewhat spreading; each terminating in a forked, leafy panicle of small white, erect flowers. Seeds rough, reddish.

ARENARIA TENUIFOLIA. *Fine-leaved Sandwort.* TAB. **643.**

Stem panicled, dichotomous. Leaves slender, subulate, connate.

Petals lanceolate, shorter than the lanceolate, very acute, 3-ribbed calyx. Capsules erect, 3-valved, as long as the calyx.

Arenaria tenuifolia, *E. B.* 219. *Smith* II. 308. *Lindley* 49. *Hooker ed.* 2. 206. *ed.* 3. 210.

An annual, flowering in June. Grows on walls, roofs, and the most barren sandy soils, but, though often abundant in such situations, it is rather a local than a common plant. Whole plant glabrous, 4 or 5 inches high, very slender. Flowers panicled, inconspicuous, white.

ARENARIA FASTIGIATA. *Level-topped Sandwort.* TAB. **644.**

Stem erect, straight, densely corymbose in fruit. Leaves very slender, awl-shaped, adpressed. Flowers crowded. Calyx leaves acuminate, the lateral ribs dilated; twice as long as the ovate petals.

Arenaria fastigiata, *E. B.* 1744. *Smith* II. 309. *Hooker ed.* 2. 206. *ed.* 3. 210. A. fasciculata, *Jacquin. Lindley* 50.

Grows on alpine rocks in Angusshire and Fifeshire. An annual, 4 or 5 inches high. Flowers in June. Calyx leaves smooth, green at the keel, with a white central rib, and a very broad lateral one on each side reaching almost to the margin. Capsule 3-valved. Seeds beautifully toothed, on long stalks.

ARENARIA VERNA. *Vernal Sandwort.* TAB. **645.**

Stems numerous, panicled above. Leaves awl-shaped, sub-acute, 3-veined. Petals obovate, about equal to the calyx. Calyx leaves with 3 remote, equal ribs.

Arenaria verna, *E. B.* 512. *Smith* II. 309. *Lindley* 50. *Hooker ed.* 2. 206. *ed.* 3. 209.

In rocky mountainous pastures in the North of England and Wales, and about Edinburgh and other places in Scotland, this *Arenaria* is not unfrequent. The root, which is perennial, strikes deep into the crevices of the rocks, sending up numerous slender stems 3 to 4 inches high, thickly clothed with leaves toward the base, and terminating in few-flowered, forked panicles. Herb more or less pubescent. Flowers from May to July.

ARENARIA CILIATA. *Fringed Sandwort.* TAB. **646.**

Stems procumbent, much branched, downy. Leaves spatulate, roughish, ciliated towards the base. Flowers terminal, solitary. Calyx leaves with 5 or 7 ribs, lanceolate, half as long as the petals.

Arenaria ciliata, *E. B.* 1745. *Smith* II. 310. *Lindley* 50. *Hooker ed.* 2. 206. *ed.* 3. 209.

Very rare. Discovered by Mr. J. T. Mackay in 1806, growing on the limestone cliffs of a high mountain adjoining to Ben Bulben in the county of Sligo, Ireland. Perennial. Flowers in August and September.

ARENARIA RUBELLA. *Little red Sandwort.* TAB. **646***.

Stems tufted, pubescent, mostly 1-flowered. Leaves linear, blunt, 3-veined, connate. Petals elliptico-lanceolate, shorter than the acute lanceolate, 3-ribbed leaves of the calyx.

Arenaria rubella, *E. B. Supp.* 2638. *Smith* IV. 267. *Hooker ed.* 2. 206. *ed.* 3. 210. A. hirta, *Wormskjold. Lindley* 49.

A very rare species, found only toward the summits of the highest mountains of Scotland, where it grows among fragments of rock, forming little dense tufts, which including the flower-stems are seldom more than an inch and a half high. The styles and valves of the capsule vary from 3 to 5. Perennial. Flowers in July. Petals white. Anthers red. The whole plant acquires a reddish tinge towards autumn.

GENUS CCL. CHERLERIA. *Cyphel.*

Nat. Order. CARYOPHYLLEÆ.

GEN. CHAR. *Calyx* of 5 leaves, united at the base. *Petals* 5, extremely minute, emarginate. *Capsule* 1-celled, opening with 3 valves, many-seeded.

Smooth herbaceous plants, with small crowded leaves and greenish-white flowers. They form perennial tufts in alpine situations.

CHERLERIA SEDOIDES. *Moss Cyphel. Dwarf Cherleria.* TAB. **647**.

Cherleria sedoides, *E. B.* 1212. *Smith* II. 312. *Lindley* 48. *Hooker ed.* 2. 207. *ed.* 3. 211.

This little alpine plant is found only in moist places about the summits of the Highland mountains, where its crowded leafy stems form compact moss-like tufts, of a light green hue, about an inch high. Leaves somewhat fleshy, channelled above, 3-ribbed beneath. The flowers, which appear in June or July, grow solitary, on short peduncles, arising from among the dense mass of leaves toward the extremities of the branches. Calyx yellowish green, white and membranous at the edges. Perennial.

ORDER IV. PENTAGYNIA.

GENUS CCLI. COTYLEDON. *Navel-wort. Penny-wort.*

Nat. Order. CRASSULACEÆ.

GEN. CHAR. *Calyx* 5-parted. *Corolla* monopetalous, tubular, with 5 segments. *Germens* 5, tapering, each with an obtuse hypogynous scale at the base.

These are succulent plants with alternate leaves. The British species are herbaceous, perennial, with yellow or greenish flowers, and, though flourishing chiefly upon walls and rocks, affect rather moist situations.

COTYLEDON Umbilicus. *Common Navel-wort.* Tab. **648.**

Root tuberous. Stem mostly simple. Leaves peltate, crenate, depressed in the centre. Flowers clustered, pendulous. Upper bracteas minute, entire.

Cotyledon Umbilicus, *Hudson. E. B.* 325. *Smith* II. 314. *Hooker ed.* 2. 207. *ed.* 3. 211. Umbilicus pendulinus, *DeCandolle. Lindley* 64.

A frequent plant in the subalpine districts of our island, growing on moist rocks, walls, and cottage roofs, and flowering from June to August. Stem 6 inches to a foot high, round, purplish, erect, terminating in a simple raceme, or bearing cymose clusters of pale greenish yellow pendulous flowers. Leaves mostly radical, very smooth, on long nearly central petioles; often cup-shaped. Corolla cylindrical. Whole plant very succulent.

COTYLEDON lutea. *Greater yellow Navel-wort.* Tab. **649.**

Root creeping. Stem mostly simple. Leaves deeply toothed; the lowermost somewhat peltate. Flowers in a dense spike, erect. Bracteas foliaceous, subdentate.

Cotyledon lutea, *Hudson. E. B.* 1522. *Smith* II. 314. *Hooker ed.* 2. 208. *ed.* 3. 211. Umbilicus erectus, *DeCandolle. Lindley* 64.

This very beautiful species is exceedingly rare. It was introduced into the English Flora by Mr. Hudson, who had it from the West Riding of Yorkshire, and from a plant the original of which was communicated by him to Chelsea Garden, our figure was taken: he likewise mentions it as having been received from Somersetshire. Its natural habitats are similar to those of the preceding species. A larger and taller plant, with erect, bright yellow, campanulate flowers, which come out in July.

Genus CCLII. SEDUM. *Orpine and Stonecrop.*

Nat. Order. Crassulaceæ.

Gen. Char. *Calyx* with 5 deep clefts, often foliaceous. *Petals* 5, spreading. *Hypogynous scales* entire. *Capsules* 5.

Succulent herbs, or rarely small shrubs, with alternate leaves and ornamental red, white, or yellow flowers. They are natives chiefly of the northern temperate zone, where, with an organization capable of bearing its extremes of heat and cold, they flourish in the most exposed situations. No plants are more easily cultivated or better adapted for the decoration

of fancy rock-work, or to break the uniformity of bricks and mortar on the walls of a suburban garden.

* *Leaves plane.*

SEDUM Telephium. *Orpine. Live-long.* Tab. **650.**

Stems erect. Leaves ovate, plane, serrated. Corymbus leafy.

Sedum Telephium, *E. B.* 1319. *Smith* II. 315. *Lindley* 64. *Hooker ed.* 2. 208. *ed.* 3. 212.

On the borders of fields, hedge-banks, and in waste places among bushes, where the soil is gravelly or calcareous, this plant is not unfrequent; the stem, which is spotted with purple, rising to the height of 1 or 2 feet, and producing its dense tufts of crimson or purple flowers about the middle of July. A white-flowered variety is occasionally met with. Perennial.

** *Leaves tumid or terete.*

SEDUM dasyphyllum. *Thick-leaved Stonecrop.* Tab. **651.**

Stems flaccid. Leaves ovate, gibbous, very fleshy; the lower ones opposite. Panicles glutinous.

Sedum dasyphyllum, *E. B.* 656. *Smith* II. 316. *Lindley* 64. *Hooker ed.* 2. 208. *ed.* 3. 212.

Not uncommon in many parts of the kingdom, growing upon rocks, walls, and old buildings. The rock under Conway Castle, Wales, is red with it in the flowering season, June and July. Leaves singularly short and thick, almost globose, very glaucous, with sometimes a reddish tinge and minute red dots. Flowers rose-colour or white. Petals and pistils often more than 5.

SEDUM anglicum. *English Stonecrop.* Tab. **652.**

Leaves alternate, ovate, gibbous, fleshy; loose and spurred at the base. Cyme of 2 branches.

Sedum anglicum, *E. B.* 171. *Smith* II. 317. *Lindley* 64. *Hooker ed.* 2. 208. *ed.* 3. 212.

In the mountainous districts of the North of Wales and Ireland this little plant is abundant, and forms a very frequent ornament of the most barren rocks. It grows plentifully likewise on the sandy downs near Yarmouth, and other places in the vicinity of the sea. More erect in its growth than the last species, with smaller leaves, which have a blunt protuberance at the base below their attachment to the stem. Petals very acute, white or pink, dotted. The whole plant often becomes red towards the close of the summer. Flowers in June and July. Undoubtedly perennial, though always hitherto said to be an annual.

SEDUM acre. *Biting Stonecrop. Wall Pepper.* Tab. **653.**

Leaves alternate, somewhat ovate, fleshy, tumid; spurred at the base. Cymes trifid, leafy.

Sedum acre, *E. B.* 839. *Smith* II. 317. *Lindley* 64. *Hooker ed.* 2. 209. *ed.* 3. 213.

This brilliant little plant is conspicuous about midsummer, its flowering season, on walls, roofs, and barren sandy ground, which it attires as it were with cloth of gold, in defiance of the drought and most scorching sun. Its upright, closely imbricated leaves, and especially the acrid flavour which has obtained for it the name of Wall Pepper, distinguish it from all our other native species. Perennial.

SEDUM SEXANGULARE. *Insipid Stonecrop.* TAB. **654.**

Leaves in 6 or 7 rows, nearly cylindrical, obtuse, fleshy, spreading; spurred at the base. Cyme of 3 branches, leafy.

Sedum sexangulare, *E. B.* 1946. *Smith* II. 318. *Lindley* 64. *Hooker ed.* 2. 209. *ed.* 3. 213.

Somewhat rare, on old walls and sandy ground, chiefly in the south-eastern counties, as in Kent, Essex, and Cambridgeshire; our specimen was from the famous rotten walls of Old Sarum. On Greenwich Park wall, the habitat given by Mr. Curtis, it no longer exists. Liable to be confounded at first sight with *S. acre*, which it resembles in the inflorescence, but readily distinguished by the form and insertion of the leaves. Petals paler yellow. Perennial. Flowers in July and August.

SEDUM VILLOSUM. *Hairy Stonecrop.* TAB. **655.**

Stem erect. Leaves alternate, flattened above, linear, slightly hairy and viscid, as well as the flower-stalks.

Sedum villosum, *E. B.* 394. *Smith* II. 319. *Lindley* 65. *Hooker ed.* 2. 209. *ed.* 3. 212.

Frequent in the moist clefts of rocks and wet mountainous pastures in the North of England and in Scotland. Stem erect, 3 or 4 inches high, seldom branched, except at the top, which terminates in a few-flowered, downy corymbus. Leaves on the barren shoots cylindrical. Whole plant generally reddish, and covered even to the calyx with viscid hairs. Annual? Flowers in June and July.

SEDUM ALBUM. *White Stonecrop.* TAB. **656.**

Leaves scattered, oblong, cylindrical, obtuse, spreading, smooth. Panicle much branched.

Sedum album, *E. B.* 1578. *Smith* II. 319. *Lindley* 65. *Hooker ed.* 2. 208. *ed.* 3. 212.

Occasionally met with on rocks, walls, and the roofs of houses, but generally in situations rather sheltered. Stems very much branched and creeping, the flowering branches only erect. Leaves somewhat glaucous, often changing to red, like those of the rest of the genus, towards autumn. Panicle very luxuriant, cyme-like. Petals white or slightly tinged with pink. Anthers red, as in all of the red- and white-flowered Sedums. Perennial. Flowers in July. One of the most ornamental of its family.

SEDUM REFLEXUM. *Reflexed yellow Stonecrop.* TAB. **657.**

Leaves awl-shaped, scattered; spurred at the base; the lowermost recurved. Inflorescence cymose. Segments of the calyx ovate.

Sedum reflexum, *E. B.* 695. *Smith* II. 320. *Lindley* 65. *Hooker ed.* 2. 209. *ed.* 3. 213.

Not unfrequent on walls and thatched roofs, flowering in July. Perennial. A large straggling species with smooth stems and leaves. Barren branches pendent or spreading, thickly clothed with leaves, the lowermost of which are curved backward. Flowering branches erect, 6 inches to a foot in height, terminating in a compact cyme of bright yellow flowers, the parts of which vary very frequently from the normal number; the segments of the calyx, petals, and germens being 6 or 7, and the stamens 12 or more. Similar variations occur in the 3 following species, which nearly resemble this in habit.

SEDUM GLAUCUM. *Glaucous yellow Stonecrop.* TAB. **658.**

Leaves glaucous, awl-shaped, scattered; produced at the base; those of the barren branches thread-shaped. Inflorescence cymose. Segments of the calyx lanceolate.

Sedum glaucum, *E. B.* 2477. *Smith* II. 321. *Hooker ed.* 2. 209. *ed.* 3. 213. S. albescens, *Haworth. Lindley* 65.

We believe this species more common than hitherto supposed, and that it is often passed over as *S. reflexum*, from which its slender leaves, divaricated cyme, and more glaucous hue, constitute the chief distinctions. To the habitat, given in the first edition, near Mildenhall, Suffolk, it may be added that we have specimens from between Bala and Dinasmowddy, North Wales, and from the neighbourhood of Worcester. Flowers in July and August. Perennial.

SEDUM RUPESTRE. *St. Vincent's-Rock Stonecrop.* TAB. **659.**

Leaves glaucous, subulate, erect; spurred at the base; those of the branches densely imbricated in 5 rows. Flowers in an imperfect cyme. Segments of the calyx elliptical, obtuse.

Sedum rupestre, *E. B.* 170. *Smith* II. 321. *Lindley* 65. *Hooker ed.* 2. 209. *ed.* 3. 213.

Rare. On St. Vincent's and Cheddar rocks, Somersetshire, and on walls about Darlington, Yorkshire. The very closely imbricated leaves, and their dark glaucous hue distinguish it at once from the rest of our taller yellow-flowered Sedums. Perennial. Flowers in July.

SEDUM FORSTERIANUM. *Welsh Rock Stonecrop.* TAB. **660.**

Leaves spurred at the base; those of the branches semicylindrical, bluntish-pointed, spreading, in many rows, clustered. Flowers in a cyme. Segments of the calyx short and rounded.

Sedum Forsterianum, *E. B.* 1802. *Smith* II. 322. *Lindley* 65. *Hooker ed.* 2. 209. *ed.* 3. 214.

On rocks at the fall of the Rheidiol, Cardiganshire, and other

places in Wales. The bright green, spreading leaves, forming dense clusters at the extremities of the branches, and the compact hemispherical cyme afford the best marks of distinction. Flowers in July. Perennial.

Genus CCLIII. OXALIS. *Wood-Sorrel.*

Nat. Order. Oxalideæ.

Gen. Char. *Calyx* 5-parted. *Petals* 5, often connected by their claws. *Filaments* sometimes united below; 5 outer ones shorter. *Capsule* superior, 5-celled, 5-sided, bursting at the angles. *Seeds* few, inclosed within an elastic *arillus*.

Herbaceous plants, generally tuberous, with alternate, compound, or rarely, by abortion, simple leaves, and flowers of various shades of purple, red, yellow, or white. No plants are more easily cultivated, or more ornamental, their size considered. Natives of the warmer parts of both hemispheres, but most abundant in Southern Africa. Both the leaves and flowers of all the species are remarkably susceptible, drooping or closing on the slightest depression of temperature. The tubers of *O. crenata*, the Arracacha of South America, are eaten as potatoes, but the foliage is universally acid, containing more or less of the oxalic, either in a pure state or in that of binoxalate of potash.

OXALIS Acetosella. *Common Wood-Sorrel.* Tab. **661.**

Root scaly. Leaves all radical, ternate; leaflets sessile, obcordate, hairy. Scape single-flowered.

Oxalis Acetosella, *E. B.* 762. *Smith* II. 323. *Lindley* 59. *Hooker ed.* 2. 210. *ed.* 3. 214.

Woods and thickets in almost every soil and situation usually abound with this beautiful little plant, whose drooping white flowers, delicately veined with lilac, are finely contrasted with the neat bright green foliage, which early in the spring spreads in verdant patches over the wrecks of the preceding autumn. Leaves often purple beneath; the leaflets droop towards evening and on the approach of rain. Leaf-stalks and scapes slender, reddish; the latter elegantly curved above, and with 2 scaly bracteas above the middle. Flowers in the level country in April and May, but on mountains, where it grows in the shady fissures of the rocks, in July and August. Perennial.

OXALIS corniculata. *Yellow procumbent Wood-Sorrel.* Tab. **662.**

Stem branched, procumbent. Stipules united to the base of the petioles. Peduncles shorter than the leaves, terminating in a small umbel of 2 or 3 flowers.

Oxalis corniculata, *E. B.* 1726. *Smith* II. 324. *Lindley* 59. *Hooker ed.* 2. 210. *ed.* 3. 214.

Rare. Found chiefly in the extreme south and south-western parts of England, where it grows in shady, and rather moist, waste ground, flowering throughout the summer and autumn, and shedding its seed abundantly. Leaflets ternate, downy. Flowers small, yellow. Fruit large. Annual.

Genus CCLIV. AGROSTEMMA. *Cockle.*

Nat. Order. Caryophylleæ.

Gen. Char. *Calyx* tubular, with 5 foliaceous teeth, coriaceous. *Petals* 5, clawed; the limb obtuse, undivided. *Capsule* superior, 1-celled, opening with 5 teeth.

Scarcely separable as a genus from *Lychnis*. Flowers purple, red, or white, highly ornamental, as the name Agrostemma, literally *Crown of the field*, well expresses.

AGROSTEMMA Githago. *Corn Cockle.* Tab. **663.**

Hairy. Calyx-teeth reaching beyond the corolla. Petals entire, naked.

Agrostemma Githago, *E. B.* 741. *Smith* II. 321. *Lindley* 47. *Hooker ed.* 2. 210. *ed.* 3. 214. Lychnis Githago, *Lamarck. DeCandolle.*

This beautiful plant is but too common in corn-fields, raising its fine purple flowers to a level with the ripening ears in June and July; after which the round black seeds are either scattered upon the ground or gathered in with the harvest, deteriorating the value of the grain with which they are thrashed. The whole plant is covered with erect, silky hairs. Leaves linear-lanceolate. Flowers solitary, on long peduncles, large and conspicuous. Calyx 10-ribbed, with 5 long, linear, leafy teeth, which drop off after the fall of the petals. Annual.

Genus CCLV. LYCHNIS. *Campion and Catchfly.*

Nat. Order. Caryophylleæ.

Gen. Char. *Calyx* tubular, 5-toothed, membranaceous. *Petals* 5, clawed, usually cloven at the border, and furnished with coronal scales. *Capsule* superior, 1- or 5-celled, opening with 5 teeth.

A genus very nearly approaching in habit and general features to *Silene* in the 2nd Order of this Class; hence the confusion of their popular names, Campion and Catchfly, which are applied indiscriminately to the species of each. Their red and white flowers, frequently doubled by cultivation, furnish some of the most common ornaments of the garden.

LYCHNIS Flos-Cuculi. *Cuckoo-flower. Ragged Robin. Meadow Lychnis.* Tab. **664.**

Flowers loosely panicled. Petals with 4 linear segments. Capsule roundish, 1-celled.

Lychnis Flos-Cuculi, *E. B.* 573. *Smith* II. 326. *Lindley* 47. *Hooker ed.* 2. 211. *ed.* 3. 214.

Frequent in moist meadows, where it flowers early in June. The stem rises from 1 to 2 feet high, rough with deflexed bristles below, clammy above. Leaves lanceolate, connate at the base. Calyx with 10 ribs, and as well as the flower-stalks purplish-red. Petals limber, rose-coloured. Perennial.

LYCHNIS diurna. *Red Campion.* Tab. **665.**

Flowers diœcious, in dichotomous panicles. Petals cloven, with narrow diverging lobes. Capsules roundish, with recurved valves. Leaves ovate.

Lychnis dioica, *a*, flore rubro, *E. B.* 1579. *Smith* II. 328. *Hooker ed.* 2. 211. *ed.* 3. 215. L. sylvestris, *Hoppe. Lindley* 47. L. diurna, *Sibthorpe.*

Common under hedges and in other shady and rather moist situations, particularly where the subsoil is clay or gravel, but seldom seen in chalky districts. Linnæus confounded this with the following species under his *L. dioica*, but though mutually deficient in the development of their floral organs, the same plant rarely perfecting both stamens and pistils, such is the difference of their habit, that, independent of colour, they would scarcely be associated by the most indifferent observer. We believe the specific characters as given will be found constant. Stems 18 inches to 2 feet high, terminating in a forked panicle. The whole herb is clothed with soft hairs and is somewhat viscid. Flowers bright rose-colour, scentless, appearing in May and June. A double-flowered variety is common in gardens. Perennial.

LYCHNIS vespertina. *White Campion.* Tab. **666.**

Flowers usually diœcious, in dichotomous panicles. Petals cloven, with broad converging lobes. Capsules conical, with erect valves. Leaves lanceolate.

Lychnis dioica: flore albo, *E. B.* 1580. *Smith* II. 328. *Hooker ed.* 2. 211. *ed.* 3. 215. L. dioica, *Lindley* 47. L. vespertina, *Sibthorpe.*

A more robust plant than the preceding, with larger white or pale blush-coloured flowers, diffusing an agreeable fragrance towards evening and at the approach of rain, which is never perceptible in those of *L. diurna.* Leaves of a denser substance and more lanceolate than ovate. It seems to prefer an open habitat, abounding in fields and exposed pastures, especially in a chalky soil, where the Red Campion rarely intrudes. Flowers from June to August. Perennial.

LYCHNIS Viscaria. *Red German Catchfly.* Tab. **667.**

Viscid. Petals slightly emarginate. Capsule 5-celled, stalked. Leaves linear-lanceolate.

Lychnis Viscaria, *E. B.* 788. *Smith* II. 327. *Lindley* 47. *Hooker ed.* 2. 211. *ed.* 3. 214.

Grows on dry alpine rocks, about Edinburgh and in other parts of Scotland, and on Craig Wreidhin, Montgomeryshire. Tufted. Flowering-stems about a foot high, dark brown and clammy below each joint. Leaves linear-lanceolate, acuminate, smooth. The flowers, which expand in June, are large, rose-coloured, in a dense terminal panicle, and very ornamental. A variety with pure white petals is not uncommon in collections, and a double red-flowered one is among the most frequent decorations of our gardens. Perennial.

LYCHNIS alpina. *Red alpine Campion.* Tab. **668.**

Smooth. Petals bifid. Flowers densely corymbose (subcapitate). Capsule 5-celled. Leaves lanceolate.

Lychnis alpina, *E. B.* 2254. *Smith* II. 328. *Lindley* 47. *Hooker ed.* 2. 211. *ed.* 3. 215.

This rare British species has hitherto been only found about the summits of the Clova mountains in Angusshire, where its dense clusters of rose-coloured flowers appear in June and July. Well distinguished from the last by its deeply cloven petals and the want of the viscid secretion upon the stem. Perennial.

Genus CCLVI. CERASTIUM. *Mouse-ear Chickweed.*

Nat. Order. Caryophylleæ.

Gen. Char. *Calyx* 5-parted. *Petals* 5, bifid. *Capsule* superior, 1-celled, bursting at the summit, with 10 teeth (5 in *C. aquaticum*).

Insipid and generally uninteresting weeds; a few of the species only have large flowers, conspicuous on their native rocks, and are applicable in cultivation to decorate the alpine garden. Natives of the northern parts of both hemispheres. The flowers are white throughout the genus.

CERASTIUM vulgatum. *Broad-leaved Mouse-ear Chickweed.* Tab. **669.**

Hairy, nearly erect, viscid above. Leaves roundish-ovate, blunt. Flowers in dichotomous panicles, subcapitate. Petals equal to the calyx. Capsules ascending, twice as long as the calyx.

Cerastium vulgatum, *E. B.* 789. *Smith* II. 330. *Lindley* 51. *Hooker ed.* 2. 211. *ed.* 3. 215.

Common everywhere in fields, and on walls, banks, and road-sides,

flowering from April to June. Varies in habit, but well charactered as distinct from the following, by its pale-green hue, more obtuse foliage, and capsules curving upward. Annual.

CERASTIUM VISCOSUM. *Narrow-leaved Mouse-ear Chickweed.* TAB. **670.**

Hairy, viscid, spreading. Leaves oblong-lanceolate. Flowers in loose dichotomous panicles. Petals shorter than the calyx. Capsules deflexed, incurved, twice as long as the calyx.

Cerastium viscosum, *E. B.* 790. *Smith* II. 330. *Lindley* 51. *Hooker ed.* 2. 212. *ed.* 3. 215.

Equally common with the last in similar situations, though, perhaps, upon the whole, affecting a moister habitat. Its procumbent stems, dark-green hue, more elongated leaves, and deflexed capsules especially distinguish it. Perennial, flowering from May to September.

CERASTIUM SEMIDECANDRUM. *Little Mouse-ear Chickweed.* TAB. **671.**

Hairy, viscid, sub-erect. Leaves oblong-ovate. Flowers in dichotomous panicles. Petals but slightly notched, shorter than the calyx. Stamens 5. Capsules erect.

Cerastium semidecandrum, *E. B.* 1630. *Smith* II. 331. *Lindley* 51. *Hooker ed.* 2. 212. *ed.* 3. 216. C. pumilum, *Curtis.*

Frequent on walls, and in dry waste places in a sandy soil, flowering in March and April. Segments of the calyx with a conspicuous, white, dilated margin. Some have supected this to be an early-flowering and depauperated variety of *C. viscosum*, which, though so much smaller in all its parts, it nearly resembles in habit. Annual.

CERASTIUM TETRANDRUM. *Tetrandrous Mouse-ear Chickweed.* TAB. **672.**

Hairy, somewhat viscid. Calyx 4-parted. Petals 4, shorter than the taper-pointed calyx. Stamens 4. Capsule scarcely longer than the calyx, with 8 blunt teeth.

Sagina cerastoides, *E. B.* 166. Cerastium tetrandrum, *Smith* II. 332. *Hooker ed.* 2. 212. *ed.* 3. 216. C. semidecandrum, *β.* tetrandrum, *Lindley* 51.

The claim of this plant to rank as a separate species is at best doubtful, the parts of fructification occasionally varying to 5; under which circumstance, notwithstanding the difference of habit expressed by our figure, which exhibits, perhaps, a rather luxuriant form of it, no very positive feature of distinction can be pointed out between it and *C. semidecandrum.* Grows in similar situations with the 3 preceding, but more especially in the vicinity of the sea. Annual. Flowers in May and June.

CERASTIUM ARVENSE. *Field Chickweed.* TAB. **673.**

Stems ascending. Leaves linear-lanceolate, obtuse, ciliated at the base. Petals twice as long as the calyx.

Cerastium arvense, *E. B.* 93. *Smith* II. 333. *Lindley* 51. *Hooker ed.* 2. 213. *ed.* 3. 216.

A perennial species, growing on dry banks and waste ground, in a sandy or gravely soil, in many parts of the kingdom, and flowering in June and July. Branches numerous, decumbent below, very slender, 4 or 5 inches high, each terminated by 2 or 3 large white flowers. Capsule cylindrical, shorter or scarcely longer than the calyx.

CERASTIUM ALPINUM. *Hairy alpine Chickweed.* TAB. **674.**

Subglabrous or clothed with long silky pubescence. Leaves elliptical-ovate. Panicle few-flowered, dichotomous.

Cerastium alpinum, *E. B.* 472. *Smith* II. 334. *Hooker ed.* 2. 213. *ed.* 3. 217. C. alpinum *β*, *Lindley* 51. C. latifolium, *Lightfoot.*

The mountains of Scotland and North Wales present us with this species, but in the latter district it is rare. A perennial, with creeping roots and rather weak, partly decumbent stems, forming loose tufts, 3 to 5 inches high. The flowers, which appear in July and August, are of a pure white, large, and handsome.

CERASTIUM LATIFOLIUM. *Broad-leaved alpine Chickweed.* TAB. **675.**

Subglabrous, or clothed with short, rigid, yellowish bristles. Leaves elliptical-ovate. Flowers terminal, mostly solitary.

Cerastium latifolium, *E. B.* 473. *Smith* II. 334. *Hooker ed.* 2. 213. *ed.* 3. 217. C. alpinum, *Lindley* 51.

A more humble plant than the foregoing, from which it is chiefly distinguished by the short, rigid pubescence, and sub-solitary flowers. Its rank as a separate species is very doubtful; an opinion to which we incline after a careful examination of various specimens, both of this plant and *C. alpinum*, from different habitats. Grows on the mountains of Scotland and North Wales, but is not of very frequent occurrence. Perennial. Flowers from June to September.

CERASTIUM AQUATICUM. *Water Chickweed.* TAB. **676.**

Leaves cordate; upper ones ovato-cordate, sessile. Flowers solitary, lateral. Petals deeply cloven, scarcely longer than the calyx. Capsules pendulous, ovate, longer than the calyx; opening with 5 valves.

Cerastium aquaticum, *E. B.* 538. *Smith* II. 335. *Lindley* 51. *Hooker ed.* 2. 213. *ed.* 3. 217.

A perennial, not unfrequent in watery places, and particularly on the sides of rivers and ditches, among reeds and bushes, supported by which its weak and otherwise procumbent stems often rise to the height of 2 feet or more. The whole plant is clothed with glandular hairs, and is viscid to the touch, especially towards the upper part of the stems. Habit that of *Stellaria nemorum*, with which it is liable to be confounded at first sight, as well as with luxurious specimens

of *S. media*; its chief distinction from that genus consisting in the constant presence of 5 styles in each flower, instead of 3. Flowers in July.

Genus CCLVII. SPERGULA. *Spurrey.*

Nat. Order. Caryophylleæ.

Gen. Char. *Calyx* 5-leaved. *Petals* 5, entire. *Capsule* superior, ovate, 1-celled, 5-valved.

Small herbaceous plants, with linear, opposite or verticillate leaves, and white, or pinkish flowers. All the species vegetate in sandy soils, where they are sometimes troublesome weeds. The genus is nearly allied to *Arenaria*, from which indeed it is chiefly distinguished by its pentagynous flowers. The seeds are pretty objects for the microscope.

SPERGULA arvensis. *Corn Spurrey.* Tab. **677.**

Leaves whorled, with minute membranaceous stipules at their base. Fruitstalks reflexed. Seeds more or less margined.

Spergula arvensis, *E. B.* 1535. *Smith* II. 336. *Lindley* 48. *Hooker ed.* 2. 214. *ed.* 3. 217.

A very common plant in corn-fields on a light sandy soil, flowering from June to September. It is an annual, varying greatly in luxuriance, and in the number of its stamens, of which frequently only 5 or some number intermediate between that and the normal quantity are developed. The characters of the seeds are no less inconstant; the border being sometimes obsolete and the surface tuberculated, while at others it is broadly dilated and the surface of the seed smooth; hence *S. pentandra*, Smooth-seeded Corn Spurrey, *E. B.* 1536, can only be regarded as an accidental variety of this species. See Tab. 677*. Stems from a few inches to a foot high, swollen at the joints, from each of which proceed 2 opposite tufts of linear, roughish leaves, diverging in the manner of a whorl. Panicle dichotomous, many-flowered. Though here only known as a troublesome weed, it is in Holland and some other parts of the Continent an article of cultivation as fodder for cattle. Poultry are very fond of its seeds.

SPERGULA nodosa. *Knotted Spurrey.* Tab. **678.**

Leaves opposite, awl-shaped, smooth, connate; the upper ones bearing tufts of young leaves in their axils. Petals much longer than the ribless calyx.

Spergula nodosa, *E. B.* 694. *Smith* II. 338. *Lindley* 48. *Hooker ed.* 2. 214. *ed.* 3. 218.

This pretty species is an inhabitant of wet, sandy heaths and commons, but is rather partially distributed. It is perennial, producing its white flowers, which are larger than those of the rest of the genus, in July and August. Stems spreading and decumbent, branching a

little, particularly towards the top, 1- to 3-flowered. Whole plant smooth. Very like an Arenaria.

SPERGULA SAGINOIDES. *Smooth awl-shaped Spurrey.* TAB. **679.**

Glabrous. Leaves opposite, subulate, awnless. Flower-stalks solitary, very long. Petals shorter than the calyx; capsule twice as long.

Spergula saginoides, *E. B.* 2105. *Smith* II. 338. *Lindley* 48. *Hooker ed.* 2. 214. *ed.* 3. 218.

Frequent on the Highland mountains of Scotland, where it flowers in June and July. Stems numerous, from 1 to 3 inches high, decumbent towards the base, and each terminating above in a solitary drooping flower. Capsules erect. Perennial.

SPERGULA SUBULATA. *Ciliated awl-shaped Spurrey.* TAB. **680.**

Subpilose. Leaves opposite, awl-shaped, ciliated, bristle-pointed. Flower-stalks solitary, very long. Petals and capsules the length of the calyx.

Spergula subulata, *E. B.* 1082. *Smith* II. 339. *Lindley* 48. *Hooker ed.* 2. 214. *ed.* 3. 218. Sagina procumbens *β*, *Linnæus.*

Barren sandy or gravely heaths and pastures not unfrequently present this inconspicuous species, which has more the aspect of a *Sagina*, and especially of *Sagina procumbens*, than the last plant, of which some botanists regard it as a lowland variety. The leaves being ciliated with glandular hairs, and terminating in a stiff, bristle-like point, are the chief characters of distinction; the proportional lengths of petals and capsules being in both instances liable to vary.

CLASS XI. DODECANDRIA.

ORDER I. MONOGYNIA.

GENUS CCLVIII. ASARUM. *Asarabacca.*

Nat. Order. ARISTOLOCHIÆ.

GEN. CHAR. *Calyx* superior, campanulate, 3-lobed. *Corolla* wanting. *Stigma* stellate, 6-lobed. *Capsule* 6-celled.

Herbaceous plants of humble growth, inhabiting rocky woods and shady places in Europe and North America. They have creeping stems, alternate, petiolate, simple leaves, and solitary axillary flowers, green on the outside, and of a dull purple or brown colour internally. The roots are powerful stimulants; they are pungent and aromatic, that of *Asarum canadense* especially, which was esteemed as a spice by the

old French colonists, and is still known in the United States by the name of Wild Ginger. All the species are perennial.

ASARUM EUROPÆUM. *Common Asarabacca.* TAB. **681.**

Leaves binate, reniform, obtuse. Segments of the calyx incurved.
Asarum europæum, *E. B.* 1083. *Smith* II. 342. *Lindley* 225. *Hooker ed.* 2. 215. *ed.* 3. 219.

Found in mountainous woods in several places in the North of England and in Scotland, but not common. The stems creep close upon the surface of the soil, rooting and branching as they extend, and forming circular patches. Two dark, glossy leaves are annually produced at the extremity of each branch, from between which, in the month of May, arises upon a very short peduncle a solitary flower, of a dull brown colour on the inside and fleshy consistence. The stimulating properties of the genus are very powerful in this plant, which holds a place in our Materia Medica. The leaves are sternutative, and reduced to powder are employed in the composition of cephalic snuffs. Administered internally, the whole herb acts as an emetic and cathartic.

GENUS CCLIX. LYTHRUM. *Purple Loosestrife.*

Nat. Order. SALICARIÆ.

GEN. CHAR. *Calyx* inferior, tubular, 12-toothed; teeth alternately smaller. *Petals* 6, inserted upon the calyx, opposite its smaller teeth. *Capsule* oblong, 2-celled.

Erect growing herbaceous plants, with square stems, and purple, or rarely white, axillary flowers. The parts of fructification are far from being constant as to number in this genus.

LYTHRUM SALICARIA. *Spiked Purple-Loosestrife.* TAB. **682.**

Leaves mostly opposite, lanceolate; cordate at the base. Flowers in whorled leafy spikes. Dodecandrous.
Lythrum Salicaria, *E. B.* 1061. *Smith* II. 343. *Lindley* 72. *Hooker ed.* 2. 216. *ed.* 3. 219.

This highly ornamental plant is common in ditches and watery places, especially about the margins of pools and rivers, rising to the height of 3 or 4 feet, and producing its long spikes of beautiful purple flowers about July and August. Stamens in 2 series, 6 long and 6 short ones, within the tube of the calyx. Perennial.

LYTHRUM HYSSOPIFOLIUM. *Hyssop-leaved Purple-Loosestrife.* TAB. **683.**

Leaves alternate, linear-lanceolate, obtuse. Flowers axillary, solitary. Hexandrous.

Lythrum hyssopifolium, *E. B.* 292. *Smith* II. 344. *Lindley* 72. *Hooker ed.* 2. 216. *ed.* 3. 219.

A low annual plant, seldom exceeding a few inches in height, with erect or slightly divergent branches, and small purple flowers which expand in August. It may rank among our rarer or most local plants, being chiefly confined to the eastern parts of England, where it occurs occasionally in partially dried pools, and other places where water has stagnated during winter.

Order II. DIGYNIA.

Genus CCLX. AGRIMONIA. *Agrimony.*

Nat. Order. Rosaceæ.

Gen. Char. *Calyx* inferior, turbinate, 5-cleft, covered with rigid hooked bristles. *Petals* 5, inserted upon the calyx. *Stamens* (about) 15. *Fruit* consisting of 2 membranous, indehiscent pericarps, invested by the indurated tube of the calyx.

Herbaceous plants, with compound or deeply-divided leaves, and yellow flowers in terminal spikes or racemes. Natives of Europe, Asia, and North America. All the species are perennial. Astringency is the universal property of the genus and of its natural order.

AGRIMONIA Eupatoria. *Common Agrimony.* Tab. **684.**

Stem-leaves interruptedly pinnate; leaflets elliptic-oblong; terminal one stalked. Spike elongated. Bracteas trifid.

Agrimonia Eupatoria, *E. B.* 1335. *Smith* II. 346. *Lindley* 99. *Hooker ed.* 2. 216. *ed.* 3. 220.

Very common on the borders of fields, balks, road-sides, and other waste places, flowering in June and July. It is a perennial with strong, woody roots, which are highly astringent. Stem erect, about 2 feet high. Whole plant hairy. An infusion of either the root or leaves is mildly tonic, and the latter especially form the basis of some empirical herb teas. The flowers, when fresh gathered, have a faint, somewhat aromatic scent, which is by some persons compared to that of apricots.

Order III. TRIGYNIA.

Genus CCLXI. RESEDA. *Rocket.*

Nat. Order. Resedaceæ.

Gen. Char. *Calyx* many-parted. *Petals* more or less divided, unequal. *Capsule* 1-celled, opening at the top.

The floral structure is rather equivocal in this genus. It consists of weeds of little interest except to the scientific botanist, and whose geographical limits extend only over Europe and such parts of Asia and Africa as are included in the basin of the Mediterranean. Two of the species are cultivated, *R. Luteola* as a yellow dye, and *R. odorata* for its delightful fragrance: the latter plant is the well-known Mignonnette of the flower-garden, a native of Egypt; and, as its popular name, which signifies "Little Darling," imports, first introduced to this country through France.

Annual or half-perennial plants, with alternate leaves, and greenish-yellow racemose inflorescence.

RESEDA Luteola. *Dyer's-weed. Yellow-weed. Wild-woad. Weld.* Tab. **685.**

Leaves lanceolate, entire. Calyx with 4 segments.

Reseda Luteola, *E. B.* 320. *Smith* II. 347. *Lindley* 219. *Hooker ed.* 2. 216. *ed.* 3. 220.

An annual, rising from 2 to 3 feet in height, and not unfrequent on walls and waste ground, especially on a chalky or sandy soil, flowering in July and August. An erect, branching plant, with long terminal racemes of greenish flowers. Lowermost petal entire, the upper ones 3-lobed with linear segments. Nectary ? (abortive stamens ?) large, crenate, unilateral, opposite the uppermost petal. Stamens numerous, pendent. The whole herb gathered in the flowering season yields a rich yellow dye, much employed by our manufacturers of cotton and woollen stuffs, for which purpose it is cultivated in some parts of the kingdom.

RESEDA lutea. *Base Rocket. Wild Mignonnette.* Tab. **686.**

Leaves deeply 3-cleft or pinnatifid; lower ones pinnatifid or bipinnatifid. Calyx with 6 segments. Petals 6, very unequally lobed.

Reseda lutea, *E. B.* 321. *Smith* II. 348. *Lindley* 219. *Hooker ed.* 2. 216. *ed.* 3. 220.

A frequent plant in chalky districts, flowering about the same time with the preceding, from which its deeply divided and crisped leaves at once distinguish it. The stems branch from the root, and form

bushy tufts. Flowers deeper yellow than those of the last species, with the petals singularly lobed, as expressed in our figure. Annual, or occasionally perennial.

RESEDA FRUTICULOSA. *Shrubby Base Rocket.* TAB. **686***.

Leaves all pinnatifid, waved, glaucous. Calyx with 5 segments. Petals 5, nearly equal, trifid.

Reseda fruticulosa, *E. B. Supp.* 2628. *Hooker ed.* 2. 217. *ed.* 3. 220.

This species, not unfrequent in the gardens of collectors, is occasionally found in a wild state, and was introduced into the Supplement to the English Botany on the authority of the Rev. J. S. Tozer, who met with it in June 1829 between Marazion and Penzance, Cornwall. It may now, we think, be regarded as a plant undoubtedly naturalized, as several other habitats upon different parts of our coasts have been added to the preceding. Some of these may possibly refer to the *R. alba* of Linnæus, a nearly allied species, or perhaps only a variety of the present; but, in either case, their mutual migration by natural causes from the shores of southern Europe, of which both are natives, is far from being problematical. Shrubby. Scarcely perennial. *R. alba*, which differs chiefly in having shorter flower-stalks, more cylindrical racemes, and the terminal lobe of its leaves less dilated, is unquestionably biennial.

ORDER IV. DODECAGYNIA.

GENUS CCLXII. SEMPERVIVUM. *Houseleek.*

Nat. Order. CRASSULACEÆ.

GEN. CHAR. *Calyx* inferior, in 12 deep segments. *Petals* 12. *Capsules* 12, many-seeded.

The number of parts, though ordinarily 12, is not very constant in the flowers of this genus. The stamens are in 2 series, the outer usually abortive, the inner (opposite the petals) bearing anthers, but sometimes the contrary.

Shrubby, or perennial herbaceous plants, with fleshy leaves and cymose inflorescence. The flowers sessile, of various shades of purple-red, yellow, or rarely white. Most of the known species are indigenous to Europe and the islands of the Atlantic. They are easy of cultivation: the shrubby sorts, which require shelter, by cuttings of the stem; the herbaceous, generally hardy, by offsets. Our only native species is:

SEMPERVIVUM TECTORUM. *Common Houseleek.* TAB. **687.**

Leaves fringed. Offsets spreading. Edges of the petals hairy, entire.

Sempervivum tectorum, *E. B.* 1320. *Smith* II. 350. *Lindley* 65. *Hooker ed.* 2. 217. *ed.* 3. 221.

This well-known plant, whose bruised leaves form one of the most common topical applications for wounds and bruises in rustic surgery, is frequent throughout the country upon walls and housetops, but more especially upon decaying thatch, where it forms large, dense tufts, flowering, though sparingly, in July. The parts of the flower are often more or less than the normal number, but generally accord with each other. A curious transition between anthers and ovaries is occasionally exhibited in the barren series of stamens.

Class XII. ICOSANDRIA.

Order I. MONOGYNIA.

Genus CCLXIII. PRUNUS. *Plum and Cherry.*

Nat. Order. Amygdaleæ.

Gen. Char. *Calyx* inferior, 5-cleft. *Petals* 5. Stone of the *drupe* with slightly prominent seams.

A genus consisting exclusively of trees and shrubs, natives of the north temperate zone. They have simple, petiolate leaves, glandular at the base, distinct stipules, and white or pinkish, generally ornamental flowers. The bark is more or less astringent, and yields by incision a gum nearly resembling the gum-arabic of commerce. The pulpy portion of the fruit of several species yields, especially when improved by cultivation, an agreeable, if not altogether wholesome, food; but the leaves and seeds abound in prussic acid, which renders them in a greater or less degree poisonous.

* *Fruit without bloom. Vernation conduplicate. Cerasus. Cherry.*

PRUNUS Padus. *Bird Cherry.* Tab. **688**.

Flowers in long racemes. Leaves deciduous, obovate, pointed, doubly serrated, smooth, with 2 glands at the summit of the petiole. Stone of the fruit rugose.

Prunus Padus, *Linn. E. B.* 1383. *Smith* II. 354. *Hooker ed.* 2. 220. *ed.* 3. 223. Cerasus Padus, *DeCandolle. Lindley* 90.

A small tree, not unfrequent in woods and hedges, where its light snowy blossoms are very ornamental in the month of May. In the North of England it is very common. The small, black, bitter fruit ripens about June or July, and is soon devoured by birds.

PRUNUS Cerasus. *Wild Cherry.* Tab. **689.**

Flowers in nearly sessile umbels. Leaves ovato-lanceolate, somewhat downy beneath, with 2 glands at the summit of the petiole.

Prunus Cerasus, *Linn.* *E. B.* 706. *Smith* II. 354. *Hooker ed.* 2. 220. *ed.* 3. 224. Cerasus avium, *Mœnch.* *Lindley* 90.

This species, the original of our garden Cherry, or rather, perhaps, its degenerate offspring, is often seen wild in our woods and coppices, producing its rich clusters of white flowers early in May. It varies with black and red fruit. The first variety is the *P. avium* of Withering and others.

** *Fruit with bloom. Vernation convolute. Prunus. Plum.*

PRUNUS domestica. *Wild Plum-tree.* Tab. **690.**

Peduncles solitary, or in pairs. Leaves ovato-lanceolate, slightly downy beneath. Branches without thorns.

Prunus domestica, *E. B.* 1783. *Smith* II. 355. *Lindley* 90. *Hooker ed.* 2. 219. *ed.* 3. 223.

Occasionally found wild in woods and hedges, but probably a truant from the garden, of whose numberless varieties it is considered to represent the original. Blossoms in May. The fruit, varying in colour and flavour, is ripe about the end of August.

PRUNUS insititia. *Wild Bullace-tree.* Tab. **691.**

Peduncles in pairs. Leaves ovato-lanceolate, downy beneath. Branches terminating in a spine.

Prunus insititia, *E. B.* 841. *Smith* II. 356. *Lindley* 90. *Hooker ed.* 2. 220. *ed.* 3. 223.

Not unfrequent in hedges and thickets, growing to the size of a small tree, and producing its white flowers in April, about the same period at which the leaves expand. The fruit is globular, and in the wild plant generally black, and very austere to the taste; the white, or rather yellow, Bullace of the markets being the produce of a variety which probably originated in cultivation.

PRUNUS spinosa. *Black-thorn. Sloe.* Tab. **692.**

Peduncles (mostly) solitary. Leaves elliptico-lanceolate, smooth. Branches ending in a sharp spine.

Prunus spinosa, *E. B.* 842. *Smith* II. 357. *Lindley* 90. *Hooker ed.* 2. 220. *ed.* 3. 223.

Common in every hedge and thicket, where its blossoms are very conspicuous in March or April, being one of the earliest harbingers of spring. They generally cover the branches in great profusion before any leaves appear. It is a low spreading shrub, very different in its habit to either of the preceding, and with all its parts much smaller; but at the same time scarcely separable from *P. insititia* by absolute characters. The ripe fruit is one of the many articles used to adulterate Port wine in England; and the dried leaves, though

undoubtedly poisonous, often form a large proportion of the low-priced black teas.

Order II. DI-PENTAGYNIA.

Genus CCLXIV. CRATÆGUS. *Hawthorn.*

Nat. Order. Pomaceæ.

Gen. Char. Segments of the *calyx* acute. *Petals* roundish. *Styles* 1—5. *Fruit* oval or globular, concealing the upper ends of the cells, which are of a bony texture.

Trees of middling size, or shrubs, with more or less lobed, alternate leaves, and white or rarely red corymbose flowers. Natives of the northern temperate zone in both continents.

CRATÆGUS Oxyacantha. *Hawthorn. White-thorn. May.* Tab. **693.**

Thorny. Leaves obtuse, deeply 3- or 5-cleft; segments serrated; smooth, glossy. Flowers corymbose. Styles 1 or 2.

Mespilus Oxyacantha, *E. B.* 2504. *Smith* II. 359. Cratægus Oxyacantha, *Linn. Lindley* 104. *Hooker ed.* 2. 220. *ed.* 3. 224.

This beautiful shrub, which forms the hedges and natural thickets in most parts of our island, is too well known to need description. Its ruby-tipped buds are among the first signs of vegetation in spring; its sweet blossoms the decoration and pledge of approaching summer; its fruit the chief wild treasure of autumn. It varies in the form of its leaves, in the calyx being smooth or downy, and in the colour of its flowers and fruit. The latter, called Haws, are a favourite food of birds, and furnish a large proportion of the subsistence of the smaller kinds during hard winters. In clayey soils the petals present various shades of pink and red, and a crimson or scarlet variety is common in our gardens and plantations. The wood of the Hawthorn is hard and tough, but seldom acquires sufficient size to be adapted to common purposes.

Genus CCLXV. MESPILUS. *Medlar.*

Nat. Order. Pomaceæ.

Gen. Char. Segments of the *calyx* foliaceous. *Petals* roundish. *Disk* large, secreting much honey. *Styles* 2—5, glabrous. *Fruit* turbinate, with the upper ends of the bony cells exposed.

European trees, of middling size, with undivided leaves, and terminal, solitary, white flowers. The common species and

its varieties are cultivated on account of their apple-like fruit, which is, however, only edible in decay.

MESPILUS GERMANICA. *Common Medlar.* TAB. **694.**

Leaves lanceolate, entire or sub-serrate, a little downy. Flowers solitary, nearly sessile, terminal. Styles (mostly) 5.

Mespilus germanica, *E. B.* 1523. *Smith* II. 360. *Lindley* 104. *Hooker ed.* 2. 220. *ed.* 3. 224.

Rare, and doubtful if wild, in hedges in Cheshire, Surrey, and Sussex. Flowers in May and June. The fruit is depressed and concave at the top: it is harsh and astringent. The wild Medlar is thorny.

GENUS CCLXVI. COTONEASTER. *Cotoneaster.*

Nat. Order. POMACEÆ.

GEN. CHAR. *Flowers* polygamous. *Calyx* turbinate, with 5 short teeth. *Petals* 5, small, erect. *Stamens* erect, the length of the teeth of the calyx. *Fruit* turbinate, with its nuts adhering to the side of the calyx, but not cohering in the centre.

A small genus, consisting of low, straggling shrubs, with entire leaves, and pink or white flowers. Natives of the mountainous parts of Europe and Asia. *C. microphylla*, from the Nepal district of India, affords, perhaps, a solitary instance of deviation from the general properties of its natural order, in the presence of prussic acid.

COTONEASTER VULGARIS. *Common Cotoneaster.* TAB. **694***.

Leaves oval, entire, downy beneath, mucronate. Calyx smooth. Styles 3 or 4.

Cotoneaster vulgaris, *E. B. Supp.* 2713. *Smith* IV. 268. *Lindley* 104. *Hooker ed.* 2. 221. *ed.* 3. 224. Mespilus Cotoneaster, *Linnæus.*

The only British habitat for this plant, at present known, is the Great Ormeshead, Caernarvonshire, where it is most plentiful on three ranges of rocks just above the village of Llandidno. Flowers in May. Fruit ripe in July.

GENUS CCLXVII. PYRUS. *Pear, Apple, and Service.*

Nat. Order. POMACEÆ.

GEN. CHAR. *Calyx* with 5 segments. *Petals* 5. *Styles* 2—5. *Fruit* fleshy, with 5 distinct, cartilaginous, 2-seeded cells.

Trees, often of considerable size. Their foliage is various; entire, or pinnatifid, or pinnated with opposite leaflets, and

more or less serrated: their flowers, white or pink, disposed in corymbs or cymes, and highly ornamental. Natives exclusively of the northern hemisphere, and chiefly of its temperate and colder regions. Their wood, though generally light, being tough and close-grained, is applicable to various economical purposes; and some species, as the Apple and Pear, are highly prized in cultivation for their wholesome subacid fruit, the numberless varieties of which rank in the highest estimation of any which our climate is capable of maturing.

PYRUS COMMUNIS. *Wild Pear-tree.* TAB. **695.**

Leaves simple, ovate, serrated. Flower-stalks corymbose. Fruit turbinate.

Pyrus communis, *E. B.* 1784. *Smith* II. 361. *Lindley* 105. *Hooker ed.* 2. 221. *ed.* 3. 224.

Not unfrequently found wild in woods and hedges. It is the unnurtured representative of the garden Pear, though, like many other plants long cultivated, its genealogy is doubtful. A tall, handsome tree, producing its rich clusters of snow-white blossoms in April or early in May.

PYRUS MALUS. *Wild Apple. Crab-tree.* TAB. **696.**

Leaves ovate, rugose, serrated. Flowers in a simple, sessile umbel. Styles united below. Fruit globose.

Pyrus Malus, *E. B.* 179. *Smith* II. 362. *Lindley* 105. *Hooker ed.* 2. 221. *ed.* 3. 225.

This tree, the original of our garden Apples, is truly indigenous, growing wild in almost every natural wood and thicket throughout the kingdom. When, about the middle or end of May, its large white and rose-coloured bloom is in perfection, few plants can surpass our English Crab in beauty. The tree grows to a middling size; its wood is harder and more durable than that of the Pear, and the bark yields a yellow dye. The fruit, though beautiful to the eye, is exceedingly acid and austere; its expressed juice, well known by the name of *Verjuice,* is employed for various purposes as an astringent, and especially as an external application for sprains and bruises.

PYRUS TORMINALIS. *Wild Service-tree.* TAB. **697.**

Leaves ovate, or cordate, serrated, 7-lobed; the lower lobes divaricating. Flower-stalks cymo-corymbose, branched.

Cratægus torminalis, *Linn. E. B.* 298. Pyrus torminalis, *Smith* II. 362. *Lindley* 105. *Hooker ed.* 2. 221. *ed.* 3. 225.

This tree, which attains a considerable size, is chiefly met with in the midland and southern counties of England, growing in woods and hedges. The flowers, which appear early in May in large terminal bunches, are white. The fruit is small, and ripens late in the autumn, being then of a greenish-brown hue with darker spots, and of a pleasant acid flavour, especially after being touched by the frost; in which latter state it is occasionally seen in the London fruit-shops.

PYRUS DOMESTICA. *True Service-tree.* TAB. **698.**

Leaves pinnated; leaflets equal, downy beneath, serrated towards the point. Flowers panicled. Fruit obovate.

Pyrus domestica, *E. B.* 350. *Smith* II. 363. *Lindley* 105. *Hooker ed.* 2. 221. *ed.* 3. 225. Sorbus domestica, *Linnæus.*

A middle-sized tree, occasionally seen in mountainous woods in Cornwall and likewise in Staffordshire, but very rare, and probably introduced from the Continent, having been formerly cultivated for the sake of its fruit, which, like that of the Medlar, is edible when mellowed by frost or time. Flowers in May, but seldom until the tree is of many years' growth. In habit it nearly resembles the next species, but is well distinguished, as our figures express, by its panicled inflorescence, as well as by the form and larger size of its fruit, which resembles a small pear.

PYRUS AUCUPARIA. *Mountain-Ash. Quicken-tree. Rowan-tree.* TAB. **699.**

Leaves pinnated; leaflets uniform, smooth, serrated. Flowers corymbose. Fruit globose.

Sorbus aucuparia, *Linn. E. B.* 337. Pyrus aucuparia, *Smith* II. 364. *Lindley* 106. *Hooker ed.* 2. 221. *ed.* 3. 225.

This elegant tree, which, whether in flower or fruit, forms one of the most conspicuous ornaments of our shrubberies and plantations, grows most abundantly in mountainous woods in the North of England and Highlands of Scotland. The flowers appear in May, and the bright-red berries are ripe in September. The latter are juicy, but so austere as to be scarcely eatable in a recent state, and contain malic acid (the acidifying principle of the natural order) in larger proportion than any other native plant. In the Highlands, however, an agreeable rob and jelly are prepared from them with sugar. The wood of the Mountain-Ash is of slow growth, but easily worked, and one of the most valuable of its genus. The Highlanders plant the tree near the door of their dwelling-places as a counter-spell against witchcraft.

PYRUS PINNATIFIDA. *Bastard Mountain-Ash.* TAB. **700.**

Leaves deeply pinnatifid, or half-pinnated, downy beneath. Flowers corymbose. Fruit globose.

Pyrus pinnatifida, *E. B.* 2331. *Smith* II. 365. *Lindley* 105. *Hooker ed.* 2. 222. *ed.* 3. 225. Sorbus hybrida, *Linnæus.*

A beautiful tree, common in plantations, but rare in a wild state, and perhaps only found truly so in the Western Islands of Scotland, where it was first discovered by Mr. J. T. Mackay, growing among the mountains at the north end of the Isle of Arran. Flowers in May. Its dense tufts of scarlet fruit render it highly ornamental in August and September. In habit, and in some of the variations in foliage to which both of the species are liable, this plant so nearly resembles the next species, *P. Aria*, that many botanists incline to regard them as varieties of the same. Linnæus considered the present a mule between the latter plant and *P. aucuparia.*

PYRUS Aria. *White Beam-tree.* Tab. **701.**

Leaves ovate, cut, serrated; hoary beneath. Flowers in a dense flat corymbus. Fruit globose.

Pyrus Aria, *E. B.* 1858. *Smith* II. 367. *Lindley* 105. *Hooker ed.* 2. 222. *ed.* 3. 225. Cratægus Aria, *Linnæus.*

In rocky mountainous woods, especially over chalk or limestone, this tree occurs in several parts of England, Scotland, and Ireland, flowering about May, and ripening fruit towards September or October. It is often seen in plantations, where, as well as the preceding, it attains a larger size than on its native hills. The under surface of the leaves is white, with a dense cottony or mealy pubescence; they vary in outline, and are sometimes deeply pinnatifid. The wood is valuable.

Genus CCLXVIII. SPIRÆA. *Spiræa. Meadow-sweet. Dropwort.*

Nat. Order. Rosaceæ.

Gen. Char. *Calyx* 5-cleft, persistent. *Petals* 5. *Capsules* superior, 3—12; 1-celled, 2-valved, with few seeds.

Small shrubs, or herbaceous perennials. They have alternate, stipulate, simple or compound leaves, and small white or reddish flowers. Natives of the cooler regions of the northern hemisphere.

SPIRÆA salicifolia. *Willow-leaved Spiræa.* Tab. **702.**

Shrubby. Leaves elliptico-lanceolate, unequally serrated, smooth. Racemes terminal, compound.

Spiræa salicifolia, *E. B.* 1468. *Smith* II. 367. *Lindley* 89. *Hooker ed.* 2. 222. *ed.* 3. 226.

This pretty shrub, one of the most frequent ornaments of the garden and shrubbery, is found wild in moist, mountainous woods and thickets in several parts of the North of England and in Scotland. It is thickly branched, rises to the height of 3 or 4 feet, and sends out numerous suckers from the root. The crowded racemes of rose-coloured flowers make their appearance in July and August.

SPIRÆA Filipendula. *Common Dropwort.* Tab. **703.**

Herbaceous. Leaves interruptedly pinnated; leaflets opposite, uniform, deeply cut and serrated, smooth. Flowers in a terminal cymose panicle. Styles numerous.

Spiræa Filipendula, *E. B.* 284. *Smith* II. 368. *Lindley* 89. *Hooker ed.* 2. 222. *ed.* 3. 226.

Not unfrequent in open dry pastures, especially where the soil is calcareous, but more so in the midland and southern counties than in the North of England; in Scotland it is rare. The trivial name, *Filipendula*, refers to the peculiar structure of the root, the principal

fibres of which enlarge towards the extremity in the form of tubers, a provision of nature to enable the plant to resist drought, it being almost the only instance in its genus of attachment to arid situations. Stems a foot or more in height, terminating in a panicle of cream-coloured flowers, which are often tipped with red. A very elegant plant, especially in the rich soil of a garden, where its flowers are frequently seen doubled by cultivation; they expand about July.

SPIRÆA Ulmaria. *Meadow-sweet. Queen of the Meadows.* Tab. **704.**

Herbaceous. Leaves interruptedly pinnated, downy beneath; leaflets serrated, the terminal one largest and lobed. Cymes more or less proliferous. Styles many.

Spiræa Ulmaria, *E. B.* 960. *Smith* II. 368. *Lindley* 89. *Hooker ed.* 2. 222. *ed.* 3. 226.

Often abounding in moist meadows, and about the banks of rivers, ponds, and ditches, where its stems rise to the height of 3 or 4 feet, flowering about June and July. The flowers have a sweet scent like those of the Hawthorn, perceptible at a considerable distance in a calm atmosphere: hence the English name.

Order III. POLYGYNIA.

Genus CCLXIX. ROSA. *Rose.*

Nat. Order. Rosaceæ.

Gen. Char. *Calyx* urn-shaped, fleshy, contracted at the orifice, terminating in 5 segments. *Petals* 5. *Pericarps* numerous, 1-seeded, bristly; fixed to the inside of the fleshy tube of the calyx.

This extensive and well-known genus consists exclusively of shrubs with prickly (rarely naked) stems, and alternate, pinnate leaves, with opposite leaflets, and stipules adhering to the petiole. The flowers, large and more or less fragrant, present various shades of red, white, or yellow. The species are distributed over every part of the northern hemisphere, but not a single instance occurs of a Rose being found indigenous to the south of the equator. The facility with which varieties of this lovely flower are obtainable by cultivation, has occasioned it to engross a larger share of the attention of our florists than any other, with the exception, perhaps, of the Tulip and the Dahlia; and our gardens bloom with numberless diversities of form and colour, which the botanist would in vain endeavour to trace to the original stock whence they sprang. But the same circumstances that have rendered the

Roses so subservient to the production of artificial hybrids have probably operated to no small extent in nature in deranging and confounding the characters of original species. In no existing genus do we find such absolute homogeneity of structure, and, as a necessary consequence, in none is the difficulty of deciding between species and varieties so much enhanced as in *Rosa*.

The following sections have been adopted, but can scarcely be considered as indicating any certain limits of variation between the native species.

* "*Branches setigerous*" (the British species seem exceptions). *Prickles straight, or scarcely curved. Leaflets lanceolate. Bracteæ large.* Cinnamomeæ, *Lindley*.

ROSA CINNAMOMEA. *Cinnamon Rose.* TAB. **705**.

Stems with scattered, subulate prickles, which are often in pairs. Leaflets oblong-lanceolate, simply serrated, downy and glaucous beneath. Calyx-segments simple, very long. Fruit small, ovato-globose, smooth.

Rosa cinnamomea, *E. B.* 2388. *Smith* II. 372. *Hooker ed.* 2. 224. *ed.* 3. 227. R. acuminata, *Swartz.*

A doubtful native, admitted into the English Botany on the authority of Mr. Salisbury, who gathered it in the wood at Aketon Pasture, near Pontefract, Yorkshire. Stems and branches of a deep brownish-red, very prickly towards the base, but nearly bare above, or with a single pair of prickles below each leaf or branch. Leaflets coarsely and irregularly serrated. Bracteas broadly ovate, concave, and pointed. Fruit coral-red, somewhat ovate, crowned by the very long, persistent segments of the calyx. Flowers, under cultivation, of a deeper cast of purplish-pink than expressed in our figure: they expand in May, and often at intervals through the summer.

ROSA DICKSONI. *Dickson's Rose.* TAB. **705***.

Branches flexuose; armed with a few scattered, slender, subulate prickles. Leaflets ovato-lanceolate, downy, with coarse double serratures; folded together. Stipules, petioles, and calyx glandular; the segments of the latter very long, slender, (mostly) simple. Fruit urceolate, ovate.

Rosa Dicksoni, *E. B. Supp.* 2707. *Lindley* 99. *Hooker ed.* 2. 223. *ed.* 3. 226.

A native of Ireland, whence it was introduced to the garden of the celebrated botanist whose name it bears. Branches blood-red, flexuose. Leaflets 5 or 7, large, oval, hoary on both sides with a fine pubescence. Bracteas concave, sometimes terminating in 1 or 3 small leaflets. Peduncles enlarging at the summit and ripening with the fruit, which is large, ovate, with a more or less lengthened neck, of a deep orange-red colour, either smooth or with a few scattered

glandular hairs, and crowned with the persistent segments of the calyx. Flowers in May and June.

** *Branches setigerous. Prickles straight, or nearly so. Leaflets ovate. Bracteæ wanting. Calyx-segments converging, persistent.* Pimpinellifoliæ, *Lindley.*

ROSA RUBELLA. *Red-fruited dwarf Rose.* TAB. **706** & **709*** *bis.* Fig. 3. Fruit.

Branches covered with equal-sized prickles and setæ. Leaflets simply and equally serrated, smooth. Calyx-segments entire. Fruit oblong, pendulous.

Rosa rubella, *E. B.* 2521. *Smith* II. 374. *Lindley* 99. *Hooker ed.* 2. 225. *ed.* 3. 228.

A rare species, belonging chiefly to sandy sea-coasts in the north. It approaches the following, *R. spinosissima*, in general aspect, but is well distinguished by its equal prickles and oblong (not round) crimson pendulous fruit. A low shrub, with divaricating branches. The flowers, which expand in June and July, are delicately fragrant, but, as Dr. Hooker observes, have a peculiar acidity mingled with the ordinary scent of the Rose. Petals slightly tinged with pink, or cream-coloured.

ROSA SPINOSISSIMA. *Burnet Rose.* TAB. **707.**

Prickles crowded, very unequal. Leaflets almost orbicular, simply serrated, smooth. Calyx simple. Fruit globose, smooth, erect.

Rosa spinosissima, *E. B.* 187. *Smith* II. 375. *Lindley* 100. *Hooker ed.* 2. 226. *ed.* 3. 229. R. pimpinellifolia, *Linn. Syst. Nat. Sabine.*

This pretty native rose is not uncommon on sandy heaths throughout the kingdom, but seems most attached to maritime situations. A low, bushy plant, increasing rapidly by suckers, and expanding its numerous cream-coloured flowers, which are sometimes tinged with pink externally, in May and June. Fruit erect, globular, quite smooth, of a dark purple-red colour, changing when ripe to black.

ROSA HIBERNICA. *Irish Rose.* TAB. **708.**

Prickles scattered, unequal, the larger somewhat falcate; the setæ very few. Leaflets elliptical, simply serrated; hairy beneath. Segments of the calyx pinnate. Fruit nearly globular.

Rosa hibernica, *E. B.* 2196. *Smith* II. 393. *Lindley* 100. *Hooker ed.* 2. 227. *ed.* 3. 230.

A native of the North of Ireland, where it was first observed as a distinct species by Mr. John Templeton, who met with it growing very abundantly about Belfast harbour. Erect, 5 or 6 feet high, with dense, reddish-brown, ascending branches. Petals pale pink. Fruit somewhat urceolate; bright red. Flowers from June to November.

ROSA WILSONI. *Wilson's Rose.* TAB. **708***.

Prickles crowded, unequal, straight; intermixed with setæ. Leaflets simply serrated, hairy; their disk eglandulose. Calyx simple. Fruit ovato-urceolate, setose.

Rosa Wilsoni, *E. B. Supp.* 2723. *Hooker ed.* 2. 227. *ed.* 3. 231.

Discovered in July 1826 by Mr. W. Wilson, growing on a declivity by the Menai, near Bangor Ferry, where it forms bushes about 3 feet high, with slender, diffuse branches, and the foliage acquires early in the season a remarkable tinge of red. The unequal prickles, of which the larger are greatly dilated at the base, distinguish this plant from *R. rubella*, the simple serratures and the want of glands on the disk of the leaflets from *R. involuta*, and from all the varieties of *R. Sabini*. Flowers large, handsome, of a deep pink, appearing in July. Fruit orange-scarlet.

ROSA INVOLUTA. *Prickly unexpanded Rose.* TAB. **709** & **709***bis*. Fig. 2. Fruit. [See Errata]

Prickles crowded, very unequal, straight; intermixed with setæ. Leaflets doubly serrated, hairy; glandulose beneath. Fruit globular, rough with setæ.

Rosa involuta, *E. B.* 2068. *Smith* II. 377. *Lindley* 100. *Hooker ed.* 2. 228. *ed.* 3. 231.

This species, a native of the Hebrides and western parts of Scotland, forms a dwarf bush, spreading widely by suckers, not unlike *R. spinosissima*, with which it likewise corresponds in the very unequal, straight, and crowded prickles of its stems, but presents a marked difference in both foliage and fruit. Flowers in June and July. The petals are often involute, and seldom completely expanded, whence the specific name. Fruit dark blood-red, slightly urceolate.

ROSA SABINI. *Sabine's Rose.* TAB. **709***.

Prickles scattered, straight or slightly curved, unequal; intermixed with a few setæ. Leaflets doubly serrated, hairy, glandulose beneath. Segments of the calyx (mostly) pinnate.

Rosa Sabini, *E. B. Supp.* 2594. *Smith* II. 380. *Lindley* 100. *Hooker ed.* 2. 229. *ed.* 3. 232.

Var. β. R. Doniana, *E. B. Supp.* 2601. Prickles more crowded, nearly all straight. Leaves densely pubescent. Calyx-segments nearly simple. Tab. 709**bis*.

Var. γ. R. villosa, *E. B.* 583. R. gracilis, *Woods.* Larger prickles all falcate. Calyx nearly simple. Tab. 709**ter*.

Woods and thickets in many parts of our island present this species and its varieties, but it is more peculiarly indigenous to the northern counties of England and Scotland. It is one of the largest of our native roses, rising often, especially in the last variety, to the height of 8 or 10 feet. The flowers are large and showy, of various shades of pink, and appear in profusion in June. Fruit dark-red, rough with setæ; extremely variable in form, even on the same bush.

*** *Prickles nearly straight and equal. Setæ none, or very few. Leaflets glandulose. Calyx-segments persistent.* Villosæ, *Lindley.*

ROSA MOLLIS. *Soft-leaved Rose.* TAB. **710.**

Root-shoots erect. Prickles uniform, straight. Leaflets ovate, downy on both sides. Calyx-segments nearly simple, converging. Fruit globose.

Rosa mollis, *E. B.* 2459. *Lindley* 100. R. villosa, *Smith* II. 381. *Hooker ed.* 2. 230. *ed.* 3. 233.

Frequent in the North and in mountainous districts. A variable and doubtful plant, nearly allied to the following, if indeed specifically distinct. Shoots never arched. Flowers red or full pink, rarely white with external blotches of red; they expand in June and July. Fruit mostly pendulous, purple red, with a cæsious bloom; naked, or scantily beset with setæ.

ROSA TOMENTOSA. *Downy-leaved Dog-Rose.* TAB. **711.**

Root-shoots arched. Prickles mostly uniform. Leaflets oblong, downy on both sides. Calyx-segments much divided, divergent.

Rosa tomentosa, *E. B.* 990. *Smith* II. 383. *Lindley* 100. *Hooker ed.* 2. 231. *ed.* 3. 234.

Frequent in hedges and thickets. The most variable of all our Roses, *R. canina*, perhaps, excepted. The arched shoots and compound calyx distinguish it from *R. mollis*, but cannot be regarded as constant characters; the prickles, leaves, and fruit are infinitely diversified. Flowers in June and July.

R. scabriuscula, *E. B.* 1896, seems to be only one of the numerous modifications of this species. See Tab. 711*.

**** *Prickles unequal, rarely absent; with or without setæ. Leaflets ovate or oblong, usually with fragrant glands. Calyx-segments mostly persistent.* Rubiginosæ, *Lindley.*

ROSA INODORA. *Scentless Briar.* TAB. **712.**

Prickles nearly equal, very much hooked. Leaflets doubly serrated, hairy, more or less glandulose beneath. Calyx-segments much divided, mostly deciduous before the fruit is quite ripe. Fruit elliptical or nearly globular. Branches without setæ.

Rosa dumetorum, *E. B.* 2579. R. Borreri, *Smith* II. 388. R. rubiginosa, *var.* inodora, *Lindley* 101. R. inodora, *E. B. Supp.* 2610. *Hooker ed.* 2. 232. *ed.* 3. 235.

Not very unfrequent in hedges and thickets, but chiefly in the southern counties, flowering in June and July. A stout plant, sometimes rising to the height of 6 or 7 feet. Prickles comparatively few, dilated at the base, and strongly curved. The foliage has, notwithstanding the specific name, a scent more or less faint, according to the number of glands developed in different individuals; but it resembles rather the turpentine odour of the plants of the preceding

section than the fragrance of the Sweet-Briar. Petals pale pink. Fruit scarlet, pulpy, ovate, but variable as to proportion.

ROSA MICRANTHA. *Small-flowered Sweet-Briar.* TAB. **713.**

Prickles uniform, curved. Leaflets doubly serrated, hairy, glandulose beneath. Calyx-segments and pinnæ elongated, deciduous. Fruit elliptical-ovate. Branches sparingly setigerous.

Rosa micrantha, *E. B.* 2490. *Smith* II. 387. *Hooker ed.* 2. 233. *ed.* 3. 236. R. rubiginosa, *var.* micrantha, *Lindley* 101.

This species often abounds in hedges and thickets, and sometimes on open commons, in the southern counties, growing to the height of 5 or 6 feet, with somewhat arched shoots and straggling branches, and flowering in June and July. The leaves are abundantly sprinkled with rusty glands, but are less fragrant than those of the next species. Calyx-segments terminating in a leafy point longer than the pale pink petals. Fruit coral-red, pulpy when ripe, oblong-ovate; never pear-shaped as in *R. rubiginosa.*

ROSA RUBIGINOSA. *Sweet-Briar. Eglantine.* TAB. **714.**

Prickles numerous, unequal; the larger more or less curved, the smaller subulate. Leaflets doubly serrated, hairy, glandulose beneath and on the margin; mostly rounded at the base. Calyx-segments elongated, persistent. Fruit pyriform.

Rosa rubiginosa, *E. B.* 991. *Smith* II. 385. *Lindley* 101. *Hooker ed.* 2. 234. *ed.* 3. 237. R. Eglanteria, *Hudson.*

This plant, so common in our gardens, grows wild in many parts of the kingdom, but is most frequent in the southern counties, preferring open, dry situations, and a chalky or sandy soil. Compact and densely branched, 4 to 6 feet high; shoots ascending, never, or rarely, arcuate. The flowers, of a deep pink colour, appear in June and July; and the fruit, which ripens about September, is of an orange-red, obovate, more or less bristled with setæ, farinaceous rather than pulpy, and insipid. The fragrance of the leaves is generally known and prized.

ROSA SEPIUM. *Small-leaved Sweet-Briar.* TAB. **714*.**

Prickles numerous; the larger curved, the smaller subulate; intermixed with a few setæ. Leaflets small, doubly serrated, hairy, acute at each end, glandulose beneath and on the margin. Calyx-segments and pinnæ elongated, persistent. Fruit ovate.

Rosa sepium, *E. B. Supp.* 2653. *Lindley* 101. *Hooker ed.* 2. 235. *ed.* 3. 238.

Found by the Rev. W. T. Bree near Bridport, Warwickshire. It is nearly allied to *R. rubiginosa* and *R. micrantha*, especially to the former; but differs from both in its more humble stature, and in the acute base of the leaflets, which are sometimes equally attenuated to each end, sometimes broader upwards so as to be obovate with a point.

They are usually smaller than in our figure, slightly hairy above, almost shaggy and copiously glandulose beneath. Calyx-tube naked, as well as the peduncles, the segments being persistent on the elongated scarlet fruit, and their leafy points and spreading pinnæ fringed with setæ. The foliage has less of the Sweet-Briar fragrance, and more of the turpentine scent than that of *R. micrantha*. A densely branched bush 3 to 4 feet high. Flowers in June. In France, where this species of Rose is common, it varies much in regard to the pubescence, and in the size and figure of its leaflets. Desvaux enumerates nine varieties, and describes the leaves of five of them as without glands, except on the petioles. He inclines to the opinion that both this and *R. rubiginosa* pass into *R. canina*. Whether the surmise, in which Desvaux is not alone, be correct or not, we cannot but regard the two previous plants of this section, *R. inodora* and *R. micrantha*, as varieties between those two species.

***** *Prickles equal, hooked. Leaflets ovate, without glands. Calyx-segments deciduous. Styles distinct, included, or nearly so.* Caninæ, *Lindley*.

ROSA CANINA. *Common Dog-Rose.* TAB. **715.**

Prickles uniform, hooked. Leaflets ovate, acute, smooth, or slightly hairy, without glands, mostly carinate, with simple serratures. Calyx-segments pinnate, deciduous. Fruit ovate, smooth. Shoots ascending.

Rosa canina, *E. B.* 992. *Smith* II. 394. *Lindley* 101. *Hooker ed.* 2. 235. *ed.* 3. 239.

Of which the following may be regarded as among the numerous varieties:

R. sarmentacea, *E. B. Supp.* 2595. Leaflets doubly serrated, glandulose at the edges. Tab. 715*.

R. dumetorum, *E. B. Supp.* 2610. Leaflets slightly hairy on both sides, simply serrated, flat. Tab. 715**bis*.

R. Forsteri, *E. B. Supp.* 2611. Leaflets more or less hairy, simply serrated, carinate. Tab. 715**ter*.

The most common of our native Roses, abounding everywhere in hedges and thickets, flowering in June. It is liable to innumerable variations in different soils and situations, and is a suspected parent of several acknowledged species; but in its most frequent form could scarcely be mistaken, the smooth glossy green leaves, distinct included styles, and elongated oval fruit, from which the calyx-segments are deciduous, being the more important characters of distinction. Flowers large, pink. Fruit deep coral-red, pulpy, of a pleasant subacid flavour: a conserve prepared from it is used in medicine as an agreeable vehicle for powders and doses of small bulk.

For many interesting remarks upon the varieties of this and some other species of *Rosa*, which would exceed our limits to quote, see the British Flora of Dr. Hooker.

ROSA CÆSIA. *Glaucous-leaved Dog-Rose.* TAB. **716.**

Prickles numerous, strongly hooked. Leaflets doubly serrated, downy on both sides, their disc without glands. Calyx-segments pinnate. Styles distinct. Fruit elliptical, smooth. Shoots ascending.

Rosa cæsia, *E. B.* 2367. *Smith* II. 389. *Lindley* 102. *Hooker ed.* 2. 239. *ed.* 3. 242.

The North of England and Highlands of Perthshire and Argyleshire produce this species, which forms a compact, densely branched bush, about 5 feet high, producing its delicate pink flowers, which are usually solitary, or at most grow in pairs, in June and July. Originally confounded with *R. canina*. Varies much in the degree of pubescence, and in the presence of glands upon the stipules, margins of the leaves, and calyx; but especially charactered in all instances by the very glaucous hue of the young twigs, foliage, and calyx-tube.

****** *Leaflets without glands. Calyx-segments deciduous. Styles cohering in the form of a column; mostly protruding beyond the orifice of the calyx.* Systylæ, *Lindley.*

ROSA SYSTYLA. *Close-styled Dog-Rose.* TAB. **717.**

Root-shoots nearly erect, arched. Prickles hooked. Leaflets simply serrated, without glands, downy beneath. Calyx-segments scarcely pinnate, deciduous. United styles not hairy.

Rosa collina, *E. B.* 1895, excl. syn. R. systyla, *Smith* II. 395. *Lindley* 102. *Hooker ed.* 2. 240. *ed.* 3. 243.

Found in thickets and hedges in many parts of the kingdom, nearly resembling in its more frequent form *R. canina* in habit, but well distinguished by its rough, glandular, or bristly peduncles, and close hairless styles. It varies in different habitats in the colour of its petals, the form of the fruit and leaflets, and the degree of pubescence of the latter. Flowers in June and July. Often reaches the height of 10 or 12 feet, its erect habit being the chief character of distinction from *R. arvensis*.

ROSA ARVENSIS. *Trailing Dog-Rose. White Dog-Rose.* TAB. **718.**

Root-shoots long, trailing. Prickles scarcely equal, falcate. Leaves deciduous; leaflets simply serrated, glaucous beneath, without glands. Calyx-segments scarcely pinnate, deciduous. United styles hairless.

R. arvensis, *E. B.* 188. *Smith* II. 397. *Lindley* 102. *Hooker ed.* 2. 241. *ed.* 3. 244.

One of the most common Roses in the South of England, but rare in subalpine districts. A low bush, when unsupported, with very long, trailing and slenderly branched shoots, by which habit it is distinguished from every other British species. Branches glaucous, more or less tinged with a purplish-brown, with numerous short, mostly hooked prickles. Leaflets pale green, smooth, often glossy above, and peculiarly glaucous beneath. Flowers large, white, but slightly

fragrant, on long, rough, purplish peduncles; usually many together in almost umbellate bunches, with narrow, lanceolate bracteas at the base. Fruit comparatively small, mostly globular, blood-red when ripe, with a deep orange-coloured pulp. Variations have been noticed in the form and glaucescence of the leaflets, in the fruit being glandulose and more or less oblong; but upon the whole we consider that the present plant may be regarded as one of the most definite as to character of all the native Roses. Flowers in June and July.

Genus CCLXX. RUBUS. *Bramble.*

Nat. Order. Rosaceæ.

Gen. Char. *Calyx* 5-cleft. *Petals* 5, fragile, crumpled. *Fruit* superior; composed of several single-seeded juicy grains (drupeolæ), arranged upon an elevated spongy receptacle.

Half-shrubby plants, or herbaceous, with perennial roots. The stems of the former are biennial, usually procumbent, sterile the first year, developing flowering branches in the second, and perishing after the fruit has been matured, new shoots springing annually from the root to supply their place. Leaves stipulate, compound, palmate or pinnate; rarely simple; in all instances more or less lobed and serrated. Flowers panicled, seldom solitary, white or pink of various shades.

The genus, which is extensive, is chiefly distributed over the temperate and colder parts of the northern hemisphere; a very few species are met with in the southern, and between the tropics they seldom occur except in mountainous districts.

The species with palmate leaves are very uncertainly distinguished. Weihe and Nees von Esenbeck, in their very elaborate work on the Rubi of Germany, have, as is the error of most monographs however excellent, undoubtedly elevated several varieties to the rank of species; and although our figures comprise only a moiety of those of the above authors which are considered to be natives of Britain, it is probable that even their number ought to be curtailed so far as species are concerned.

The figure, armature, and leaves of the primary or sterile shoots are supposed to afford the least variable specific characters, and the outline of the latter is found to be most constant in the central or terminal leaflet, which is therefore always alluded to in description.

* *Leaves all pinnate.*

RUBUS idæus. *Raspberry.* Tab. **719.**

Stems erect, round, downy, with straight prickles. Leaves pinnate,

of 5 or 3 ovate leaflets, white and downy beneath; petioles channeled. Flowers pendulous. Petals scarcely equal to the calyx.

Rubus idæus, *E. B.* 2442. *Smith* II. 407. *Lindley* 95. *Hooker ed.* 2. 242. *ed.* 3. 245.

The Wild Raspberry grows plentifully in mountainous woods and thickets, especially in the North, flowering in June. Stems arcuate above, woody, about 4 feet high, biennial. Leaflets more or less angular and often slightly lobed, green and rough above, snow-white and densely cottony beneath. Flowers in drooping bunches, greenish-white, inconspicuous. Fruit scarlet; though small, its flavour is preferred by some persons to that of the cultivated varieties.

** *Leaves mostly palmate. Stem nearly erect, not rooting.*

RUBUS SUBERECTUS. *Red-fruited Bramble.* TAB. **720.**

Stems not rooting, nearly erect, scarcely angular. Prickles few, very small, nearly straight. Leaves subpinnate, with 5 or 7 ovate leaflets, the lower pair sessile. Panicle mostly simple, racemose, unarmed.

Rubus suberectus, *E. B.* 2572. *Smith* II. 406. *Lindley* 91. *Hooker ed.* 2. 243. *ed.* 3. 246.

In moist woods and thickets, and on the swampy parts of heaths and commons, this species, which somewhat resembles the Raspberry in habit, is occasionally met with, but more frequently in the mountainous districts of the North than elsewhere. The biennial stems, slightly arched towards the top, rise to the height of 3 or 4 feet, nearly smooth, with a few scattered, often minute prickles. Leaves often pinnate, with roundish-ovate leaflets, of a thin texture, nearly smooth above, hairy beneath. Inflorescence lax, scarcely paniculate. Calyx finally reflexed; petals white, narrow obovate. Fruit deep red, resembling somewhat that of the Raspberry in flavour. Flowers from June to August.

RUBUS PLICATUS. *Plaited-leaved Bramble.* TAB. **720*.**

Stems nearly erect, not rooting, obsoletely angular, with uniform, somewhat curved prickles. Leaves palmate, of 5 stalked, cordato-ovate, pointed, plicate leaflets. Panicle nearly simple, corymbose, prickly.

Rubus plicatus, *E. B. Supp.* 2714. *Weihe and Nees Rubi Germ.* t. 1. R. nitidus, *Smith* II. 404. *Lindley* 92. R. suberectus β, *Hooker ed.* 2. 243. *ed.* 3. 246.

Not rare in the forest districts of Sussex, in heathy and somewhat boggy places, chiefly on the banks of streams: found also near Newbury in Berkshire. Resembling the last species in its suberect habit, but differing materially in the larger and curved prickles of the stem; in the leaves being always palmate, the leaflets plicate, and the lower pair stalked; the panicle more dense, corymbus-like, and prickly;

and the fruit, when perfectly ripe, black and glossy. Future observation must decide upon the constancy of these characters in all situations, and their importance in specific distinction. Stem-leaves mostly quinate; those of the flowering branches usually ternate below, simple above; the upper surface nearly smooth, bright green, the under hairy and paler, but not hoary. Calyx-segments spreading or slightly reflexed; petals roundish obovate, white or pinkish. Fruit small, globular. Flowers in July and August.

*** *Leaves palmate. Stem arched or prostrate, rooting; its angles only furnished with prickles.*

The alliance between the plants of this section is so near as to approach specific identity, *R. macrophyllus*, perhaps, alone excepted.

RUBUS FRUTICOSUS. *Common Bramble. Blackberry.* TAB. **721.**

Stems arched, angular, furrowed. Prickles rather deflexed than hooked. Leaves palmate, of 5 stalked, obovate, pointed, coriaceous leaflets: their under side white with down. Panicle downy, elongated. Calyx-segments always reflexed.

Rubus fruticosus, *E. B.* 715. *Smith* II. 399. *Hooker ed.* 2. 245. *ed.* 3. 248.

Common everywhere in hedges and thickets, flowering in July and August, and ripening its well-known black fruit in September. The long, arching stems are tough and woody, of a purple colour when old, with usually a glaucous tinge, arising from the remains of a very minute pubescence with which the young shoots are clothed; their prominent angles thickly beset with somewhat hooked or deflexed prickles, as are also the petioles, veins of the leaves, and the stalk and branches of the panicle. Leaflets all stalked, very irregularly serrated, decurved at the edges, dark green and nearly smooth above, mostly quite white and densely downy beneath. Flowers beautiful pink, seldom white. Fruit nearly globular, the drupeolæ very numerous, depressed, of a deep violet-black.

RUBUS RHAMNIFOLIUS. *Buckthorn-leaved Bramble.* TAB. **721*.**

Stems arched, obsoletely angular, furrowed. Prickles uniform, straight, horizontal or deflexed. Leaves palmate, of 5 stalked, ovate or roundish, somewhat cordate, pointed leaves. Panicle spreading, twice compounded. Calyx reflexed.

Rubus rhamnifolius, *E. B. Supp.* 2604. *Smith* II. 401. *Lindley* 92. *Hooker ed.* 2. 244. *ed.* 3. 248. *Weihe and Nees Rubi Germ. t.* 6.

Frequent in woods and hedges in the South of England. Nearly allied to *R. fruticosus*, but the angles and furrows of the stem are less distinct, the prickles not so strong, and the pubescence less dense and more generally deciduous; hence the glaucous tinge, often very remarkable upon the shoots of that species, is scarcely seen in this;

added to which the older wood is not of so dark a purple, but often bright red on the exposed sides. The leaflets are less rigid, flat, or somewhat turned up at the edges, rather than decurved and arched; their under surface less downy. The panicle far more dilated and compounded. The fruit more acid, and consisting of fewer and larger grains. Flowers in July and August. Petals more or less tinged with pink.

RUBUS LEUCOSTACHYS. *Long-clustered Bramble.* TAB. **721****bis.*

Stems arched, somewhat angular and furrowed, hairy. Prickles uniform, straight, horizontal or deflexed. Leaves palmate, of 5 or 3 stalked, roundish or ovate, somewhat cordate, flat, coriaceous leaflets. Panicle elongated, slender; its branches little divided. Calyx reflexed.

Rubus leucostachys, *E. B. Supp.* 2631. *Smith* II. 403. *Lindley* 93. *Hooker ed.* 2. 246. *ed.* 3. 249.

Found in woods and hedges in the southern counties, but less frequent than the preceding. It approaches *R. fruticosus* in the form of the panicle, in the dark hues of the stem and leaves, and the coriaceous texture of the latter, but differs in the stem being less deeply furrowed, and the angles almost obsolete. The young shoots are always shaggy with spreading hairs, which however usually disappear before the second or flowering season. Leaflets often deeply jagged, sometimes waved but never decurved; dark green above, and usually very shaggy on the under side with shining, yellowish hairs, except in the upper leaves, which have it white or hoary. Panicle often remarkably elongated, the stalks more or less shaggy or downy, as well as the calyx, and generally with a few slender prickles and minute glands and setæ mingled with the pubescence. Petals and stamens deep pink. Fruit purplish-black, without bloom, sweet when ripe; drupeolæ less depressed than in that of *R. fruticosus.* A variety of this species is met with in which the stem is much less shaggy, but grey with appressed, aggregate hairs; the prickles very strong, straight and long; the leaflets rounder, very white, and less hairy beneath; and the flowers smaller and frequently white. This, as suggested by Mr. Borrer, probably accords with *R. diversifolius,* Lindley 93.

RUBUS CARPINIFOLIUS. *Hornbeam-leaved Bramble.* TAB. **721****ter.*

Stems decumbent or arched, somewhat angular, but scarcely furrowed; hairy. Prickles uniform, deflexed, curved; numerous. Leaves palmate, of 5 stalked, ovate, pointed, plicate leaflets; pale beneath. Panicle compact, hairy; its branches ascending, corymbose. Calyx spreading.

Rubus carpinifolius, *E. B. Supp.* 2664. *Hooker ed.* 2. 244. *ed.* 3. 247. *Weihe and Nees Rubi Germ. t.* 13.

Perhaps not unfrequent, having been found in many parts of the kingdom, as at Henfield, Sussex; Brentwood, Essex; and in Cheshire,

Lancashire, and North Wales. Stems usually much stained with purple, clothed with abundance of spreading, somewhat fascicled hairs: the prickles smaller, more curved and numerous than those of *R. rhamnifolius* or *R. leucostachys*, purple, tipped with yellow. Leaflets quinate on the stem, generally ternate on the flowering branches, and with the under side more hoary, or even quite white: their texture seems rather flexible than coriaceous, and their edges are more or less deflexed. Panicle much branched, very downy and prickly; always compact. Calyx spreading, not reflexed. Petals usually deep pink, filaments darker. Fruit few-grained, glossy black. Flowers in July and August.

RUBUS MACROPHYLLUS. *Large-leaved Bramble.* TAB. **721*** *quar.*

Stems arched, somewhat angular and furrowed, hairy. Prickles very few, small, uniform. Leaves palmate, of 3 or 5 stalked, elliptical or ovate leaflets. Panicle repeatedly divided, somewhat corymbose. Calyx finally reflexed.

Rubus macrophyllus, *E. B. Supp.* 2625. *Hooker ed.* 2. 246. *ed.* 3. 250. *Weihe and Nees Rubi Germ. t.* 12?

Found in Sussex and at Tunbridge Wells, but certainly not frequent. Stem about half an inch in diameter, at first upright, afterwards decurved, and growing often 15 feet or more in length, rather soft and spongy, dull green, not glaucous, purplish where exposed to the sun; the short hairs, which cover it during the first year, are soft and pale. Prickles very small, with a broad base, mostly deflexed, thinly scattered on the obtuse angles of the stem. Leaves often ternate, even on the barren shoots: leaflets on long stalks, soft and pliant, green on both sides, but paler and more hairy beneath; coarsely serrated, often 6 inches long; the middle one usually cordate. Panicle downy, with few prickles. Calyx reflexed when in fruit, its segments acute, woolly, and scattered as well as the panicle with small inconspicuous glands. Petals greenish white, or with a pink tinge. Fruit globular, black and shining, consisting of comparatively few loosely set grains. Differs in habit from all of the other plants of its section. The want of setæ, and the very small uniform prickles distinguish it from the large pale-leaved variety of *R. Köhleri.*

**** *Leaves palmate. Stem decurved or prostrate, rooting. Prickles various, more or less intermixed with setæ, and not confined to the angles of the stem.*

RUBUS CÆSIUS. *Dewberry.* TAB. **722.**

Stems procumbent, nearly taper, glaucous. Prickles unequal, straight, passing into setæ. Leaves mostly ternate, rarely quinate; leaflets ovate, the lateral ones sessile. Calyx embracing the fruit.

Rubus cæsius, *E. B.* 826. *Smith* II. 409. *Lindley* 95. *Hooker ed.* 2. 248. *ed.* 3. 251.

Frequent in woods, on hedge-banks, and the borders of fields, flowering in June and July, and ripening its fruit about the beginning

of September. It has weak, trailing stems of a pale green hue and very glaucous; variously branched and rooting. The prickles, scarcely curved or deflexed, vary in size, but are always very slender; the smaller ones diminishing gradually and becoming confounded with the setæ: they are sometimes so numerous as almost to cover the stem, at others very thinly scattered. Leaflets seldom more than 3, sharply and irregularly lobed and serrated, downy and pale, but not white beneath, deeper green and slightly pubescent above: when 5 in number, sometimes pinnate, which is indeed the normal form of the leaf throughout the genus. Panicles prickly, more or less compounded, the divisions frequently cymose. Calyx-segments attenuated towards the points, closing about the base of the fruit. Petals white or faint pink. Fruit of few, comparatively large grains, black, with a fine glaucous bloom like that of a plum: in flavour far superior to our other common species, being agreeably subacid, but in general very scantily matured. *R. dumetorum*, Weihe and Nees, Lindley 95, is either a luxuriant variety of this, (see Hooker's Brit. Flora,) or, as suggested by Lindley, synonymous with the following species.

RUBUS CORYLIFOLIUS. *Hazel-leaved Bramble.* TAB. **723.**

Stem decurved, roundish, or obsoletely angular. Prickles unequal, scattered, distinct from the setæ. Leaves palmate, of 5 ovate leaflets, the outermost sessile and lapping over the others. Calyx spreading or reflexed.

Rubus corylifolius, *E. B.* 827. *Smith* II. 408. *Hooker ed.* 2. 248. *ed.* 3. 251.

Not unfrequent in hedges and thickets, flowering in July and August. Very nearly allied to *R. cæsius*, from which, however, it differs considerably in habit, being a much stouter plant in its general form; less humble in growth, the stems being rather arched than prostrate, with stronger and more uniform prickles and few setæ; the leaves are more generally quinate, the leaflets broadly ovate, especially the terminal one, which is often cordate; the external pair always sessile at the base of the intermediate ones, which, having very short stalks, are necessarily overlapped by them. Flowers white. Fruit bluish-black, large-grained, but with less of the glaucous bloom than that of the Dewberry, which, however, it nearly resembles in flavour. By the older botanists this plant was regarded as a variety of *R. fruticosus*, but with that species or its affinities it can scarcely be confounded by the most superficial observer.

RUBUS KÖHLERI. *Köhler's Bramble.* TAB. **723*.**

Stems decurved, somewhat angular and furrowed, with scattered hairs, glands, setæ, and numerous unequal straight and hooked prickles. Leaves palmate, of 5 stalked, ovate or elliptical, pointed leaves. Panicle much divided, somewhat corymbose. Calyx loosely reflexed.

Rubus Köhleri, *E. B. Supp.* 2605. *Lindley* 94. *Hooker ed.* 2. 247.

ed. 3. 250. R. glandulosus, *Smith* II. 403, excl. syn. of *Bellardi*, and perhaps the others.

Var. β. R. fusco-ater, *Lindley* 94. *Weihe and Nees Rubi Germ. t.* 26.

Var. γ. R. pallidus, *Lindley* 94. *Weihe and Nees Rubi Germ. t.* 29. R. affinis, *Smith* II. 405, excl. syn.

Found in woods, thickets, and hedges in several parts of England, flowering in July and August. Very distinct from the two preceding species of the section. The stems, varying much from soil and situation, in thickness and length, and in the prominence of their angles, are more or less decurved or prostrate unless supported; green in shady places, red when exposed to the sun, never glaucous; covered, as are also the stalks and midribs of the leaves, with numerous spreading hairs, glands, setæ, and prickles, the latter extremely various in size, curvature, and dilation of the base. Leaflets thin and flexible, varying from lanceolate to cordate, coarsely and irregularly serrated, often rather plicate; their upper face pale green, dull, with scattered hairs; the under more hairy, paler or even hoary. Panicle large, complex, its branches divaricate; hairy, glandular, and prickly, as is likewise the reflexed or spreading calyx, which varies in the length and proportion of its segments, and is usually tinged with crimson internally. Petals small, varying in outline, often jagged, white or pale pink. Fruit glossy black, its grains numerous, not depressed, seldom equal.

Var. β has the panicle less prickly and more densely clothed with glands and setæ, and the stems of a darker hue, but these characters are not constant.

Var. γ differs somewhat in habit, and in its large pale green foliage approaches *R. macrophyllus*, but is well distinguished from that species by its unequal prickles and numerous short setæ.

***** *Subherbaceous. Leaves usually ternate.*

RUBUS SAXATILIS. *Stone Bramble.* TAB. **724.**

Stems prostrate, creeping and rooting, nearly herbaceous; flowering branches erect. Leaves ternate; leaflets obovate, cut and serrated, slightly pubescent. Panicle few-flowered, cymose.

Rubus saxatilis, *E. B.* 2233. *Smith* II. 410. *Lindley* 93. *Hooker ed.* 2. 249. *ed.* 3. 252.

A native of dry rocky woods, and stony places, in the mountainous districts of the North of England, Wales, and Scotland. Spreading widely by its slender, creeping runners; the flowering shoots erect, a span high, with a few weak, spreading prickles, and bearing at most 2 or 3 ternate leaves, and a terminal panicle of a few small, greenish-white flowers. Fruit crimson, consisting of from 1 to 3 or 4 large drupeolæ, of an agreeable acid flavour. Flowers in June.

RUBUS ARCTICUS. *Arctic Bramble. Dwarf crimson Bramble.* TAB. **725.**

Stems erect, without prickles, bearing 1 or 2 flowers. Leaves ter-

nate; leaflets ovato-cordate, bluntly serrated, smooth. Petals roundish, notched.

Rubus arcticus, *E. B.* 1585. *Smith* II. 411. *Lindley* 95. *Hooker ed.* 2. 249. *ed.* 3. 252.

This highly beautiful little alpine plant grows on rocky mountainous moors, but is, at most, exceedingly rare. The late Dr. Walker of Edinburgh gathered it in the Isle of Mull, and a specimen in the collection of Mr. Sowerby was forwarded by R. Cotton, Esq., from the elevated region of Ben-y-glo, Blair, Scotland; but Professor Hooker informs us he has searched these spots for it in vain. Stems erect, 4 to 6 inches high, generally unbranched, very slender; bearing 3 or 4 leaves, and seldom more than a single large, conspicuous, deep rose-coloured flower. Leaflets somewhat rhomboidal. Fruit pale purplish-red, formed of a few large grains, sweet and finely flavoured; it is very highly prized by the Swedes and Laplanders. Flowers in June.

****** *Stems herbaceous. Leaves simple.*

RUBUS Chamæmorus. *Mountain Bramble. Cloud-berry. Knot-berry.* Tab. **726**.

Stems simple, herbaceous, single-flowered. Leaves simple, lobed, plaited.

Rubus Chamæmorus, *E. B.* 716. *Smith* II. 412. *Lindley* 95. *Hooker ed.* 2. 249. *ed.* 3. 252.

Plentiful on the elevated peaty moors of mountainous districts in the North of England, and in Wales, Scotland, and Ireland. Root creeping. Stems roughish but not prickly, about a span high, with 2 or more simple, mallow-like leaves; terminating in a solitary, large white flower, which appears in June. Monœcious or dicœcious, the same flower rarely, if ever, perfecting both stamens and pistils. Fruit comparatively large, of an orange-tawny colour; its flavour moderately acid and mucilaginous, approaching that of tamarinds: very much esteemed by the Scottish highlanders, Norwegians, and other northern nations.

Genus CCLXXI. FRAGARIA. *Strawberry.*

Nat. Order. Rosaceæ.

Gen. Char. *Calyx* inferior, 5-cleft, with 5 external bracteolæ. *Petals* 5. *Fruit* consisting of numerous minute nuts, placed upon a large, fleshy, deciduous receptacle.

Plants all herbaceous, perennial, hardy, increasing rapidly by their running stems; the leaves stipulate, usually ternate, rarely digitate, or consisting of a solitary leaflet; the flowers white, those of *F. indica* excepted, which are bright yellow. The fruit of all the species, the above again excepted, is fra-

grant, juicy, and generally esteemed the most wholesome and delicious that is matured in the colder climates; certainly none is more grateful to the palate of an invalid, or can be eaten in quantity with greater safety, or even advantage, under most circumstances, especially by dyspeptic, gouty, or consumptive persons.

FRAGARIA VESCA. *Wood Strawberry.* TAB. **727.**

Calyx of the fruit reflexed. Hairs of the peduncles widely spreading, those of the pedicels close-pressed, silky.

Fragaria vesca, *E. B.* 1524. *Smith* II. 414. *Lindley* 95. *Hooker ed.* 2. 249. *ed.* 3. 253.

Var. β. atrovirens. *Simon-burn Strawberry, E. B. Supp.* 2742. Tab. 727*.

The wild Strawberry abounds in most woods, groves, and thickets throughout the kingdom, producing its flowers and fruit in succession from May to September; the latter varies in colour, being either white or red; though comparatively small, its flavour is by some persons preferred to that of the cultivated kinds.

The variety β, a Northumbrian plant, was referred by Mr. Lindley in his Synopsis to *F. calycina* of Loiseleur, an opinion subsequently recalled in his communication to *E. B. Supp.* as above.

FRAGARIA ELATIOR. *Hautboy Strawberry.* TAB. **728.**

Calyx of the fruit reflexed. Hairs of the peduncles and pedicels widely spreading, somewhat deflexed.

Fragaria elatior, *E. B.* 2197. *Smith* II. 415. *Hooker ed.* 2. 249. *ed.* 3. 253. F. moschata, *Duchêsne. Lindley* 96.

Found apparently wild in woods and thickets in several places, as in the vale of Llangollen; near Tring, Hertfordshire; more frequently in the southern counties; but doubtfully indigenous. It is generally thought to be the original, or perhaps in this country the descendant only, of the old Hautboy Strawberry of the gardens, more properly spelled *Haut-bois*, from its native site, the high or alpine woods of central and southern Europe. The true Hautbois has generally given place to larger and more productive kinds; and in the confusion between species and varieties induced by cultivation it would be difficult to trace the lineal descent of the Strawberries at present so called in the London markets.

Flowers from June to September. The fruit, which is globular, has a musky fragrance and a flavour superior to most of the cultivated kinds, but is seldom matured upon the wild plant in England, perhaps owing to the flowers being imperfectly diœcious or polygamous.

Genus CCLXXII. POTENTILLA. *Cinque-foil.*

Nat. Order. Rosaceæ.

Gen. Char. *Calyx* 5-cleft, with 5 external bracteolæ. *Petals* 5. *Fruit* consisting of many minute nuts placed upon a dry, more or less elevated receptacle.

Perennial herbs, or rarely shrubs, with compound stipulate leaves; flowers yellow or white, seldom red or purple. The genus, which is extensive, is distributed over the whole northern hemisphere, inhabiting alpine districts only in its warmer regions.

* *Leaves pinnate.*

POTENTILLA fruticosa. *Shrubby Cinque-foil.* Tab. **729.**

Stem shrubby. Leaves pinnate; leaflets generally 5, entire, hairy.
Potentilla fruticosa, *E. B.* 88. *Smith* II. 416. *Lindley* 96. *Hooker ed.* 2. 250. *ed.* 3. 253.

This frequent ornament of the garden and shrubbery grows abundantly in a wild state in rocky and bushy places in Middleton-Teesdale, Yorkshire, where it was known in the time of Ray. Mr. Mackay found it in Rock-forest, Clare, Ireland. 3 or 4 feet high, with a brown, deciduous bark. Stipules sheathing; uppermost pair of leaflets decurrent. Flowers solitary, terminating the branches, bright yellow: bracteolæ very large, leaf-like. Flowers in June and July.

POTENTILLA anserina. *Silver-weed. Goose-weed. Wild-Tansey.* Tab. **730.**

Stem creeping. Leaves interruptedly pinnate, serrated, silky beneath. Peduncles axillary, single-flowered.
Potentilla anserina, *E. B.* 861. *Smith* II. 417. *Lindley* 96. *Hooker ed.* 2. 250. *ed.* 3. 253.

The most elegant, and at the same time one of the most common of the British Potentillas, growing abundantly in moist meadows and on ditch-banks and road-sides, especially where water has lain through the winter: its bright yellow flowers are most conspicuous, as contrasted with the light green and silvery foliage, in June and July. Spreads rapidly by its creeping runners, which, like those of the Strawberry, take root at every joint, enabling it, when once established, to cover large patches to the exclusion of almost every other plant. The leaves are sometimes silky on both sides, at others nearly smooth. Leaflets irregularly set, deeply and sharply serrated, the larger ones oblong-lanceolate.

POTENTILLA rupestris. *Strawberry-flowered Cinque-foil.* Tab. **731.**

Stem erect, dichotomous. Leaves lyrato-pinnate; leaflets ovate, serrated, hairy, on the root-leaves 5 or 7, on the stem-leaves 3.

Potentilla rupestris, *E. B.* 2058. *Smith* II. 417. *Lindley* 96. *Hooker ed.* 2. 250. *ed.* 3. 253.

Very rare: gathered in Ray's time on the side of Craig Breidhin, Montgomeryshire, and again in 1817 by Mr. J. E. Bowman. Flowers in June. Petals pure white. The stem rises about a foot high under cultivation, terminating in a dichotomous panicle.

** *Leaves digitate.*

POTENTILLA ARGENTEA. *Hoary Cinque-foil.* TAB. **732.**

Stem decumbent. Leaves quinate; leaflets wedge-shaped, jagged, white and downy beneath, revolute at the margin.

Potentilla argentea, *E. B.* 89. *Smith* II. 418. *Lindley* 96. *Hooker ed.* 2. 250. *ed.* 3. 254.

A local, but far from uncommon plant, growing often abundantly on commons, pastures, and road-sides, though chiefly in a gravelly soil. Half-shrubby rather than herbaceous, the bases of the stems being woody and perennial. The flowers, which appear in June and in succession through the summer, are small, with bright yellow, very fugitive petals, and arranged in terminal corymbus-like panicles.

POTENTILLA VERNA. *Spring Cinque-foil.* TAB. **733.**

Stems decumbent. Root-leaves quinate; leaflets obovate, sharply serrated towards the apex, hairy beneath and at the edges. Petals obcordate.

Potentilla verna, *E. B.* 37. *Smith* II. 420. *Lindley* 97. *Hooker ed.* 2. 250. *ed.* 3. 254.

A native of dry elevated pastures in many parts of the kingdom. A small plant, with woody stems spreading in circular tufts among the grass. Flowers 2 or 3 together, terminating the branches, deep yellow; plentifully produced in April and May. A variable species, from which perhaps the following is scarcely distinct.

POTENTILLA ALPESTRIS. *Orange alpine Cinque-foil.* TAB. **734.**

Stems ascending. Root-leaves quinate; leaflets wedge-shaped, deeply serrated at the upper part, hairy. Petals cordate.

Potentilla aurea, *E. B.* 561. P. alpestris, *Smith* II. 418. *Lindley* 96. *Hooker ed.* 2. 251. *ed.* 3. 254.

This species is found on the mountains of the North of England, Wales, and Scotland, flowering in June and July. It is very different in habit from *P. verna*, but scarcely separable by positive characters; Dr. Hooker, indeed, asserts that they pass by insensible gradations into each other, and our own observations favour this opinion.

POTENTILLA OPACA. *Saw-leaved hoary Cinque-foil.* TAB. **735.**

Stems decumbent. Radical leaves of 7 hairy, linear wedge-shaped, deeply serrated leaflets; stem-leaves ternate, mostly opposite.

Potentilla opaca, *E. B.* 2449. *Smith* II. 421. *Lindley* 97. *Hooker ed.* 2. 251. *ed.* 3. 254. P. intermedia, *Nestler.*

Rare; on the Scottish mountains. Stems spreading, forming a lax tuft. Leaflets very deeply toothed, even to the base. Whole plant hairy. Flowers deep orange-yellow, expanding in June and July.

POTENTILLA ALBA. *Rock white Cinque-foil.* TAB. **736.**

Stems filiform, procumbent. Root-leaves quinate; leaflets oblong, silky beneath, tipped with converging serratures. Receptacle bristly.

Potentilla alba, *E. B.* 1384. *Smith* II. 422. *Lindley* 97. *Hooker ed.* 2. 251. *ed.* 3. 254.

Admitted into the British Flora on the authority of Hudson, according to whom it was found on the mountains of Wales by Mr. Haviland. In gardens it is not unfrequent, being among those alpine productions which are most easily cultivated: it is an elegant little plant, well adapted to the decoration of artificial rock-work, developing its snow-white flowers profusely about Midsummer, and sparingly throughout the year; in mild weather even in the depth of winter.

POTENTILLA REPTANS. *Common creeping Cinque-foil.* TAB. **737.**

Stem filiform, creeping. Leaves quinate; leaflets wedge-obovate, serrated. Peduncles axillary, single-flowered.

Potentilla reptans, *E. B.* 862. *Smith* II. 423. *Lindley* 97–9. *Hooker ed.* 2. 251. *ed.* 3. 255.

Very common in meadows, pastures, on hedge-banks, and by road-sides; its wiry stems creeping widely in all directions, rooting at every joint. Leaves generally erect, on long petioles, 2 from each joint. Flower-stalks longer than the leaves, erect, each bearing a large solitary flower. Petals obcordate, deep yellow. This plant seems to possess more astringency than the rest of the species; it was formerly in repute as a febrifuge and antiseptic, and from its supposed potent effects in medicine the name of the genus is derived. Flowers from June to September.

**** Leaves ternate.*

POTENTILLA TRIDENTATA. *Trifid-leaved Cinque-foil.* TAB. **738.**

Stem erect, panicled. Leaves ternate; leaflets oblong-wedge-shaped, smooth above, hairy beneath; 3-toothed at the apex.

Potentilla tridentata, *E. B.* 2389. *Smith* II. 424. *Lindley* 97. *Hooker ed.* 2. 252. *ed.* 3. 255.

Very rare. Found by Mr. G. Don on the mountains of Angusshire. A very elegant species, flowering in May and June. Petals white, oval, longer than the calyx.

POTENTILLA FRAGARIASTRUM. *Strawberry-leaved Cinque-foil. Barren Strawberry.* TAB. **739.**

Stems prostrate. Leaves ternate; leaflets roundish-obovate, deeply

serrated, hairy on both sides. Petals obcordate, the length of the calyx.

Fragaria sterilis, *Linn. E. B.* 1785. P. Fragaria, *Lindley* 97. P. Fragariastrum, *Smith* II. 425. *Hooker ed.* 2. 252. *ed.* 3. 255.

Frequent in dry pastures, likewise in woods and on hedge-banks, though chiefly in a gravelly soil, flowering in March and April. With the habit of a *Fragaria*, but wanting the deciduous, pulpy receptacle, the only positive feature of distinction between that genus and *Potentilla*. Whole plant covered with silky hairs, especially the under surface of the leaves. Flowers white.

Genus CCLXXIII. TORMENTILLA. *Tormentil.*

Nat. Order. Rosaceæ.

Gen. Char. *Calyx* 4-cleft, with 4 external bracteolæ. *Petals* 4. *Fruit* consisting of numerous minute nuts, placed upon a small dry receptacle.

Herbaceous plants, so nearly allied to *Potentilla* as to be associated by many botanists with that genus, the quaternary division of the flower constituting the only difference. Only two species are known, which are both indigenous.

TORMENTILLA officinalis. *Common Tormentil.* Tab. **740.**

Stems filiform, dichotomous, prostrate, unless supported. Leaves ternate, sessile; leaflets lanceolate, inciso-serrate; stipules cut.

Tormentilla officinalis, *E. B.* 863. *Smith* II. 427. *Hooker ed.* 2. 252. *ed.* 3. 255. Potentilla Tormentilla, *Sibthorpe. Lindley* 97. T. erecta, *Linnæus.*

Common on barren pastures, heaths, and moors, especially among furze, ling, and other small shrubs, supported by which it grows nearly erect, its small, bright yellow flowers, like spangles of gold, profusely bespattering the surrounding verdure in June and July. The root, large compared with the size of the plant, is very woody, of a reddish-brown colour, and ranks among the most powerful of vegetable astringents; as such it occupies a place in our Materia Medica. In the Feroe and Orkney islands it is used to tan leather; for which purpose 1 lb. is said to be equivalent to 7 lbs. of oak bark. The Laplanders employ it as a red dye.

TORMENTILLA reptans. *Trailing Tormentil.* Tab. **741.**

Stems prostrate. Leaves petiolate; leaflets 3 or 5, wedge-obovate, inciso-serrate; stipules mostly entire.

Tormentilla reptans, *Linn. E. B.* 864. *Smith* II. 428. *Hooker ed.* 2. 252. *ed.* 3. 255. Potentilla reptans, *Lindley* 98. 14.

A local plant, occurring occasionally on hedge-banks and about the borders of fields, in a dry, gravelly, or sandy soil. The flowers,

which appear in June and July, have sometimes 5 petals, and the divisions of the calyx corresponding; in which case this plant has so much the aspect of *Potentilla reptans* that the distinction between the two is very doubtful, especially when the stems are simple, instead of branched and paniculate as in our figure, which represents a more luxuriant specimen of the inflorescence than ordinarily occurs. We have, however, observed the plants for a succession of years, as well under cultivation as in their native sites, and have never seen the slightest tendency of *T. reptans* to assume the creeping habit of its near ally.

Genus CCLXXIV. GEUM. *Avens.*

Nat. Order. Rosaceæ.

Gen. Char. *Calyx* concave, 5-cleft, with 5 minute external bracteolæ. *Petals* 5. *Styles* persistent, forming a long hooked, and often geniculated awn to the pericarp. *Receptacle* oblong, very much elevated, dry.

Hardy herbaceous perennial plants, natives of the cold and temperate parts of both hemispheres. They have compound leaves, and white, yellow, or red flowers. The astringency which they possess in common with the rest of their natural order is often associated with a slightly aromatic quality that has induced their application to various medicinal and economical purposes. The name of the genus, indeed, has been derived from γεύω, 'to give flavour or relish.'

GEUM urbanum. *Common Avens. Herb-Bennet.* Tab. **742.**

Radical leaves lyrato-pinnate; those of the stem ternate. Flowers erect. Styles naked, hooked.

Geum urbanum, *E. B.* 1400. *Smith* II. 429. *Lindley* 98. *Hooker ed.* 2. 252. *ed.* 3. 255.

Frequent in woods, hedges, and dry shady places, growing to the height of 1 or 2 feet, and flowering from June to August. Petals generally shorter than the calyx, spreading, yellow. The root is sometimes used as a condiment in the spring, and put into ale to prevent its turning sour; it communicates a pleasant flavour, and is considered a good stomachic.

GEUM rivale. *Water Avens.* Tab. **743.**

Radical leaves interruptedly pinnate, or lyrate. Flowers drooping. Styles geniculate, hairy.

Geum rivale, *E. B.* 106. *Smith* II. 430. *Lindley* 98. *Hooker ed.* 2. 252. *ed.* 3. 256.

Frequent in marshy and moory ground, and about the borders of springs and rivulets, but more especially toward the north, and in alpine districts. Root rather creeping. Stems about a foot high,

gracefully curved at the top when in flower, but erect in fruit. Calyx cupulate, dark purplish-brown externally, greenish within. Petals dull purplish- or orange-red, emarginate. A very elegant and ornamental plant in its native sites, but its beauty is much diminished when cultivated in the open flower border. Flowers in June and July. The root is applicable to the same purposes with that of the preceding species, but is more aromatic; in Canada it is employed as a remedy in diarrhœa and ague.

Genus CCLXXV. COMARUM. *Marsh Cinque-foil.*

Nat. Order. Rosaceæ.

Gen. Char. *Calyx* 5-cleft, with 5 external bracteolæ. *Petals* 5, smaller than the calyx. *Receptacle* conical, large, spongy, permanent.

More nearly allied to *Geum*, or perhaps even to *Fragaria*, than to *Potentilla*, with which it is often confounded.

COMARUM palustre. *Marsh Cinque-foil. Purple Marsh-locks.* Tab. **744.**

The only known species.

Comarum palustre, *Linn. E. B.* 172. *Smith* II. 433. *Hooker ed.* 2. 250. *ed.* 3. 253. Potentilla Comarum, *Scopoli. Lindley* 97.

This beautiful plant is not unfrequent in peat bogs, marshes, and ditches, though chiefly in the northern counties and mountainous districts, where it is often the companion of *Geum rivale.* In some parts of Ireland it abounds. Roots rather creeping. Stems ascending, dichotomous. Lower leaves pinnate, with 5 or 7 lanceolate deeply serrated leaflets; upper ones ternate; all glaucous beneath, deep green and mostly smooth above. Flowers large, of a deep but dingy purple throughout, making their appearance about July and August. Perennial. The root imparts a yellow colour to woollen stuffs, and is sufficiently astringent to be used in tanning.

Genus CCLXXVI. DRYAS. *Dryas.*

Nat. Order. Rosaceæ.

Gen. Char. *Calyx* 5- to 10-cleft, its segments equal, spreading. *Petals* 5 to 10. *Styles* persistent, elongating into long feathery awns.

Small herbaceous or half-shrubby plants, natives of the northern parts of both continents. The known species are perennial, with simple, rigid leaves, hoary beneath, and white flowers.

DRYAS OCTOPETALA. *Mountain Avens.* TAB. **745.**

Leaves oblong, crenated, their margin revolute, downy beneath. Petals 8.

Dryas octopetala, *E. B.* 451. *Smith* II. 432. *Lindley* 99. *Hooker ed.* 2. 253. *ed.* 3. 256.

Frequent in the alpine parts of Great Britain and Ireland, but not farther south in the former than Yorkshire. The woody, prostrate stems strike root at intervals, and often form patches of several feet in extent. Flowers very large and showy; they appear in June and July. Petals white. Stamens very numerous, forming a dense tuft; anthers yellow.

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—— Wilson's	53	708*
—— white dog	57	718
Rowan-tree	48	699
Sandwort, fine-leaved	24	643
—— fringed	25	646
—— level-topped	25	644
—— little-red	26	646*
—— plantain-leaved	24	641
—— purple	23	638
—— sea	23	639
—— sea	24	640
—— thyme-leaved	24	642
—— vernal	25	645
Saxifrage, alpine brook	10	604
—— bright-green alpine	13	
—— broad-petalled	12	609
—— clustered alpine	8	598
—— curve-leaved	13	
—— drooping bulbous	10	603
—— fine-leaved alpine	13	
—— hairy oval-leaved	7	595
—— involute alpine	13	
—— kidney-leaved	7	594
—— long-stalked	14	611
—— mossy	12	610
—— mossy alpine	11	606
—— palmate-leaved	11	607
—— pedatifid-leaved	14	612
—— purple mountain	9	601
—— rue-leaved	11	605
—— smooth Grampian	13	
—— starry	8	597
—— trifid hairy	12	608
—— white meadow	10	602
—— yellow marsh	9	599
—— yellow mountain	9	600
Service-tree, true	48	698
—— wild	47	697
Silver-weed	67	730
Sloe	44	692
Soapwort, common	14	613
Spiræa, willow-leaved	49	702
Spurrey, ciliated awl-shaped	38	680
—— corn	37	677
—— knotted	37	678
Spurrey, sea	23	639
—— smooth awl-shaped	38	679
—— smooth-seeded corn	37	677*
Stitchwort, alpine	23	637
—— bog	22	635
—— glaucous marsh	22	634
—— greater	21	632
—— lesser	22	633
—— many-stalked	22	636
—— wood	21	630
Stonecrop, biting	28	653
—— English	28	652
—— glaucous yellow	30	658
—— hairy	29	655
—— insipid	29	654
—— reflexed yellow	30	657
—— St. Vincent's rock	30	659
—— thick-leaved	28	651
—— Welsh rock	30	660
—— white	29	656
Strawberry, *barren*	69	739
—— hautboy	66	728
—— Simon-burn	66	727*
—— wood	66	727
Strawberry-tree	4	587
Sweet-briar, common	55	714
—— small-flowered	55	713
—— small-leaved	55	714*
Tansy, wild	67	730
Tormentil, common	70	740
—— trailing	70	741
Verjuice	47	
Wall-Pepper	28	653
Weld	41	685
White Beam-tree	49	701
White-thorn	45	693
Wild Ginger	39	
Winter-green, intermediate	2	582
—— lesser	2	583
—— round-leaved	2	581
—— serrated	2	584
—— single-flowered	3	585
Woad, wild	41	685
Wood-Sorrel, common	31	661
—— yellow procumbent	31	662
Yellow-weed	41	685

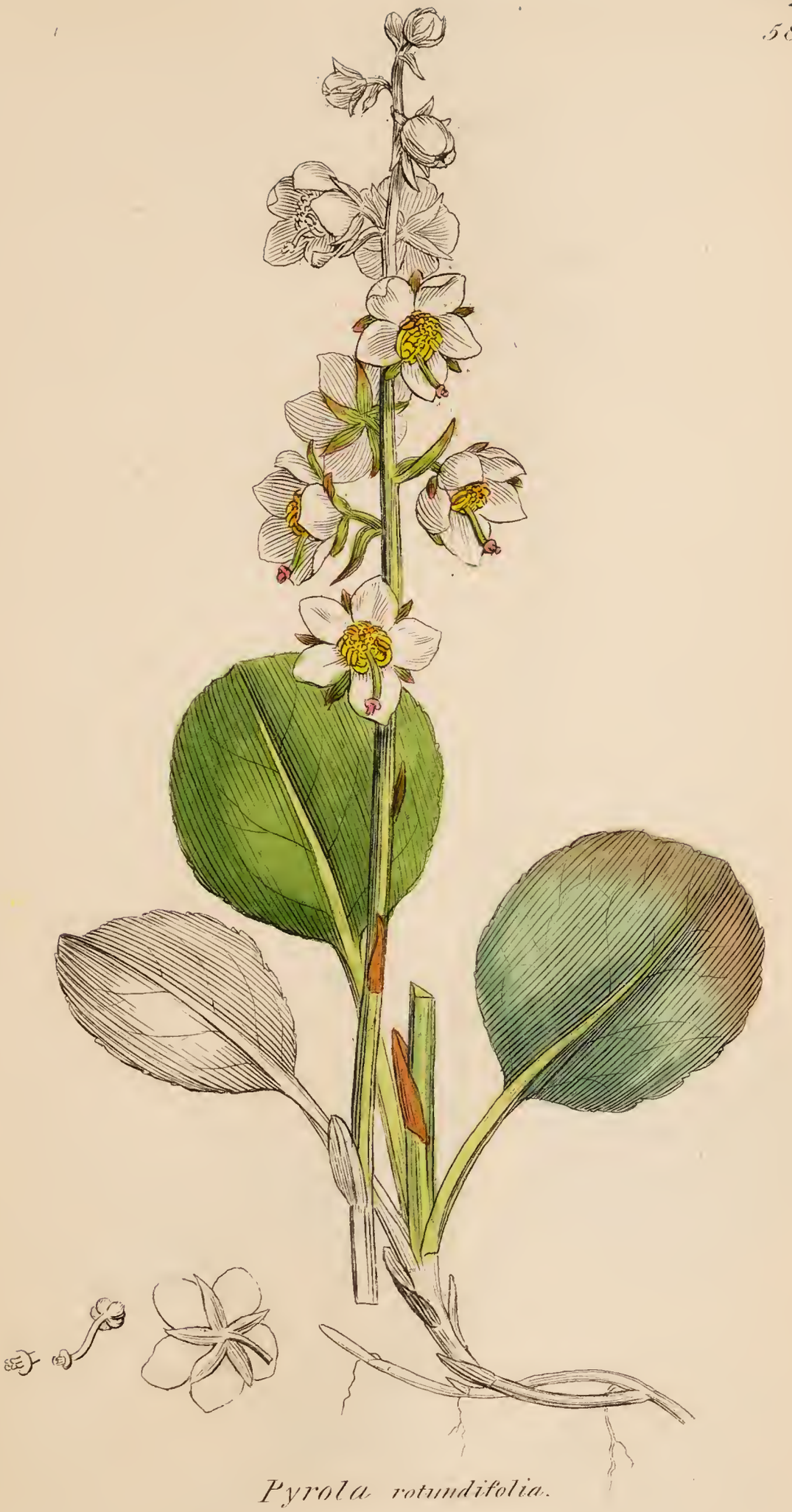
END OF THE FOURTH VOLUME.

ERRATA.

Page 30, last line but one, for *ed.* 2. 209. read *ed.* 2. 210.
— 53, Tab. 709**bis*, the figures 2 and 3 represent the fruit of preceding species: see *Rosa involuta* and *Rosa rubella*.



Monotropa Hypopitys.



Pyrola rotundifolia.

Nov 1 1794. Published by J. Sowerby London

1945

582.



Pyrola media.

Nov. 1. 1808. Publish'd by Jas. Sowerby, London.

2543.
583.



Pyrola minor.

May 1st 1818. Published by J. Sowerby, London.

583*





Pyrola secunda.



Pyrola uniflora.

713.

586.



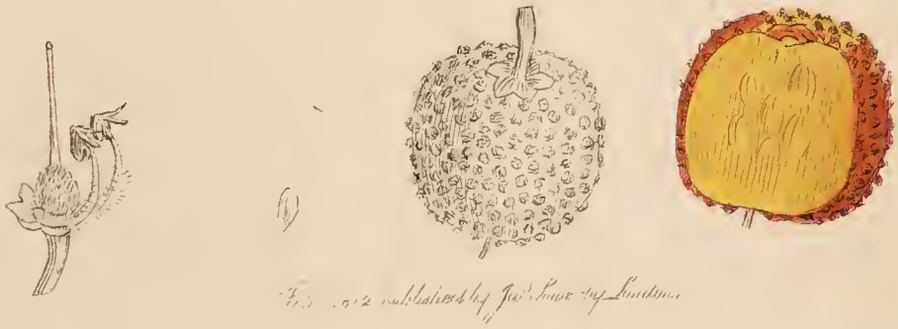
Andromeda polifolia.

2377

587.



Arbutus Unedo.



Pub. 1812 published by Jas. Sowerby Lambeth

2030.

588.



Arctostaphylos alpina.

Published by J.E. Sowerby, London.

714.
589.



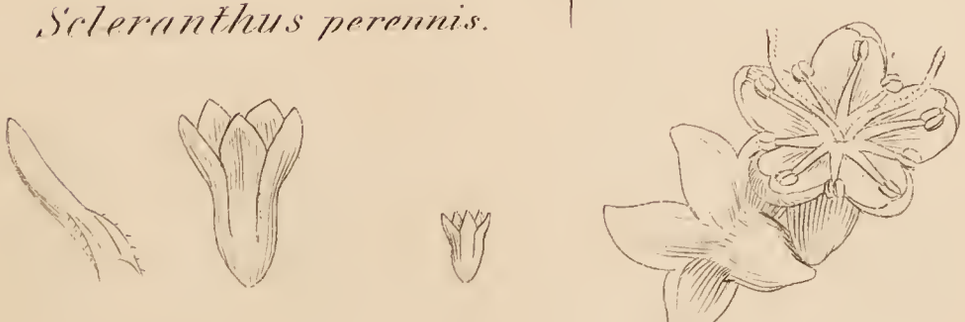


Arctostaphylos Uva-ursi.

590.



Scleranthus perennis.



Oct.1.1796. Published by J.E. Smith & Sowerby &c.

591.



Scleranthus annuus.

Oct.r 1.st 1795 Published by J.t Sowerby London.



Chrysosplenium oppositifolium.



Chrysosplenium alternifolium.

1561

594.



Saxifraga
Geum.

Febr.y 2. 1806. Published by Jas. Sowerby, London.



Saxifraga hirsuta.

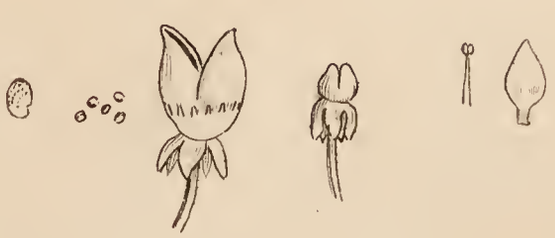
Sep.t 1811 published by Jas Sowerby London.



Saxifraga
umbrosa



Saxifraga
stellaris.



J.e Sowerby del.t Aug.t 1794





Saxifraga nivalis.

Nov.ʳ 1. 1797 Published by J.ᵉ Sowerby London.



Saxifraga Hirculus.

March 1. 1802. Published by Jas. Sowerby, London.



Saxifraga aizoides.

J. Sowerby del.t Nov.r 1. 1791



Saxifraga oppositifolia.

J. Sowerby del.t Feb.ry 1.1791.



Saxifraga granulata.



Saxifraga cernua.

Oct.r 1.1799 Published by Jas Sowerby Londn.

2275

604.



Saxifraga rivularis.

May 1 1811 published by J.s Sowerby London.





Saxifraga tridactylites.

2314

606.



Saxifraga muscoides.

Aug.t 1 1 unpublished by Jn.o Sowerby Londin.



Saxifraga palmata

1793 Published by J. Sowerby London

607*





Oct. 1. 1800. Published by Jas. Sowerby London.

608.



Saxifraga hirta.

June 1. 1811 published by J.s Sowerby London.



Saxifraga platypetala.

May 1st published by Jas. Sowerby, London

610.



Saxifraga hypnoides.

London 1778 Published by J.ᵒ Lowsley &c.

2277
611.



Saxifraga elongella.

May 1.1811 published by Jn.° Sowerby London.

612.



Saxifraga pedatifida.

Published by Ja.s Sowerby, London.

1060.

613



Saponaria officinalis.



Dianthus
Armeria.

April 1st 1796 Published by J.s Sowerby London



Dec.r 1. 1801. Published by Jas. Sowerby London

616.



Dianthus Caryophyllus.



Dianthus deltoides.



Dianthus cæsius.



Cucubalus baccifer.

March 1806. Published by Tho. Sowerby

620.



Silene inflata.

J.° Sowerby del.t Marchi 1794.



Silene maritima.

Dec.ʳ 1. 1801. Published by Jo. [illegible] in London.



Silene anglica.

June 1. 1803. Published by Ja.s Sowerby, London.



Silene quinquevulnera.



Silene otites.

1 2

625.



Silene nutans.

May 1. 1790 Published by J. Sowerby London.





626



Silene rupicola

Published by Curtis, London

627.



Silene noctiflora.

628.



Silene Armeria.

Dec.r 1 1804. Pub.d by J. Sowerby, London.



Silene acaulis.



Stellaria nemorum.



Stellaria media.

Jan.y 1799 Published by Jas Sowerby London



Stellaria graminea.



Stellaria
holostea.

Jan.ʸ 1 1798 Published by J.ˢ Sowerby London



Stellaria glauca.

1074
635.



Stellaria uliginosa.

Sept.r 1 1802 Published by Ja.s Sowerby London.







Stellaria scapigera.

Feb.y 1 1804 Published by Jas. Sowerby London



Stellaria cerastoides.



Chas. Ad. Sprengel del. et lith.

852.

638.



Arenaria rubra.

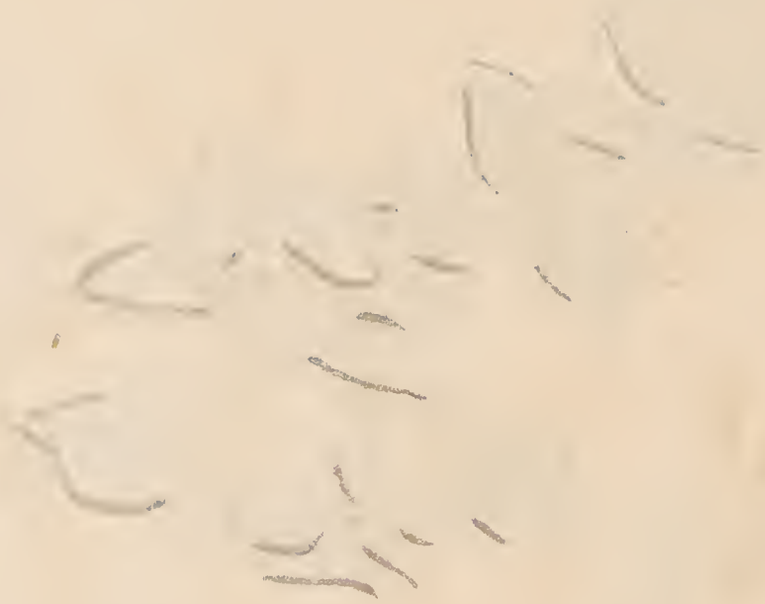
958.
639.



Arenaria
marina.



Arenaria peploides.





Arenaria serpyllifolia.





Arenaria tenuifolia.

1744

644.



Arenaria fastigiata.

May 1 1807 Published by Jas Sowerby London



Arenaria verna.

1745

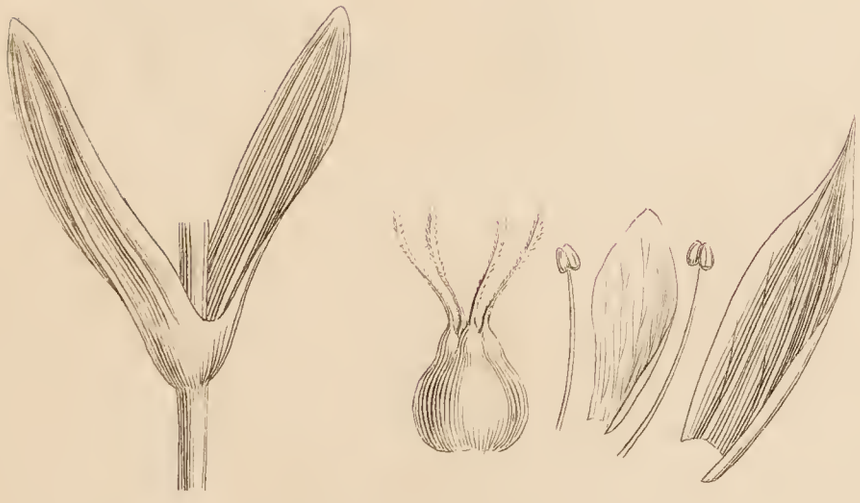
646.



Arenaria ciliata.

May 1.1807 Publish'd by Ja.s Sowerby, London.







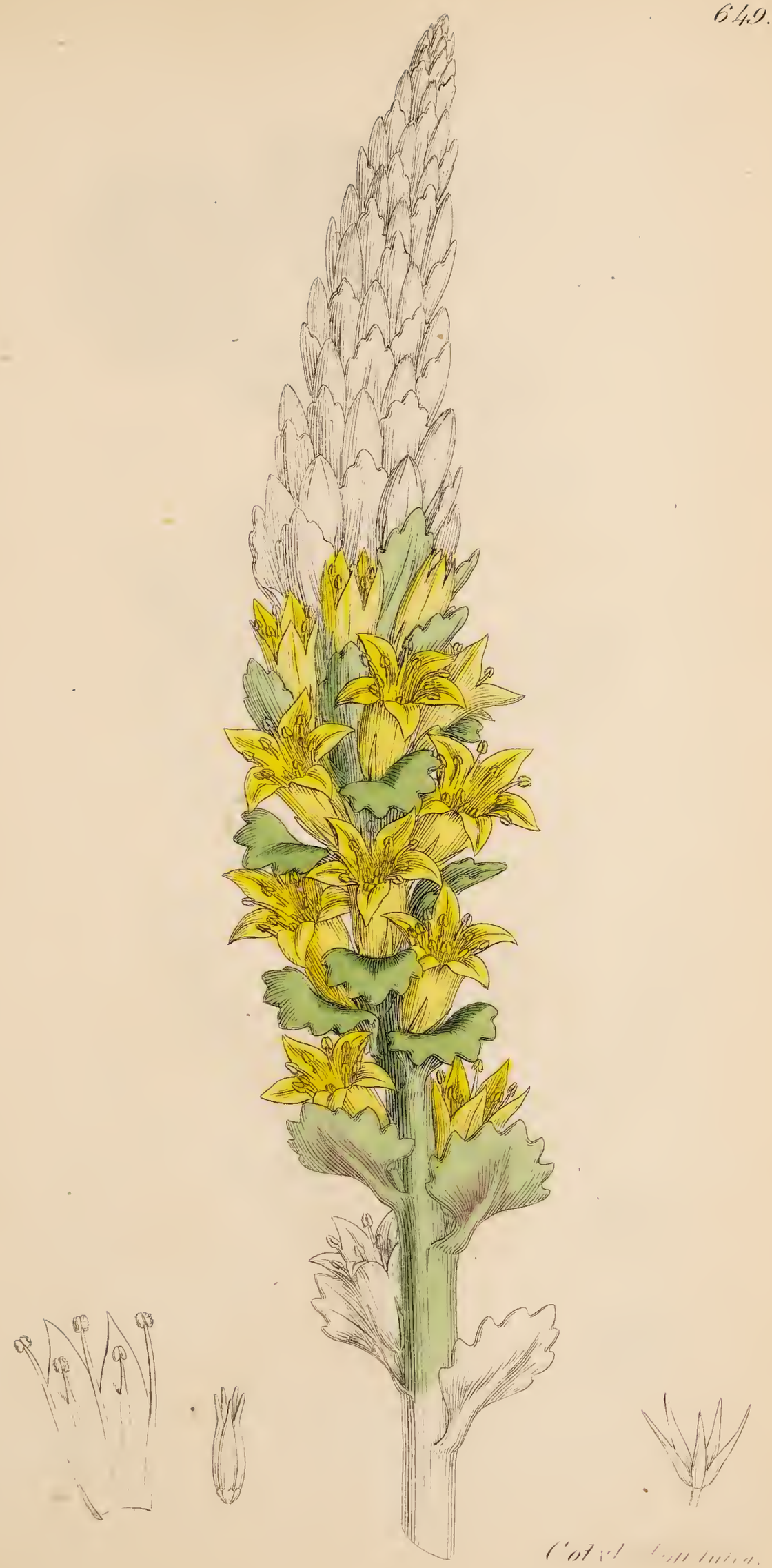
Cherleria sedoides.

Sept.ʳ 1 1803 Published by Jaˢ Sowerby, London.

648.



Cotyledon
Umbilicus.



Celsia lutea.

650.



Sedum Telephium.

Jany 1. 1804 Published by Jas Sowerby London

656.

651.





Sedum dasyphyllum.



Arenaria trinervis.

Aug.t 1 1805. Published by J. Sowerby, London



Sedum anglicum.

[illegible] 1st Apl. 1794.



Sedum acre.

Feb. 1. 1801. Published by Jas. Sowerby, London.

1946

654.



Sedum sexangulare.

Nov. 1808. Published by Jas. Sowerby, London.

655.





Sedum villosum.

1578

656.



Sedum album.

March 1. 1806. Published by Jas. Sowerby, London.



Sedum reflexum.



Sedum glaucum.



Sedum rupestre.



1802
660.



Sedum
Forsterianum.

Oct 1.1802. Published by Jas Sowerby London.



Oxalis Acetosella.



Oxalis corniculata.

Apr. 1.1863 Published by Jas. Sowerby London.

741.

663.



Agrostemma
Githago.

Tunbr. 1800. Sublished by J. Sowerby.

664.



Lychnis
Flos-Cuculi.

W. L. 1789 Sowerby del. et fec. Printed by Taylor & Francis.



Lychnis diurna.

April 1. 1806. Published by J. Sowerby, London.

1580

666.



Lychnis vespertina.

April 1. 1806. Published by Jas. Sowerby, London.



Lychnis Viscaria.

2254

668.



Lychnis alpina.

Mar 1 1811 published by Jas Sowerby London.

789.
669.



Cerastium vulgatum.



Cerastium viscosum.

1630

671.



Cerastium semidecandrum.

Aug.ˢᵗ 1.1806. Published by Jas. Sowerby, London.

166
672.



Cerastium tetrandrum.

del.



Cerastium arvense.



Cerastium alpinum.

Mrs. [illegible] Published by J. Sowerby

473.
675.



Cerastium latifolium.

May 1790 Published by J.ᵉ Sowerby London

676.



Cerastium aquaticum.



Spergula arvensis.

Dec.r 1. 1. S. Published by Jas. Sowerby, London.



Dec.r 1. 1805. Published by Jas Sowerby London.



Sperguła nodosa.

670.



Spergula saginoides.

Jan 1st 1830 published by J.s Sowerby, London

680.





Spergula subulata.

Oct.r 1. 1802. Published by Ja.s Sowerby, London.

681.



Asarum europæum.

Oct.r 1 1802 Publyshed by Jas Sowerby London



Lythrum salicaria.



Lythrum hyssopifolium.

Pubblicato da Sig.r Sowerby, Londra



Agrimonia Eupatoria.

July 1. 1804. Published by Jas. Sowerby, London.

685.



Reseda Luteola.

686.



Reseda lutea

May 1 1796 Published by J. Sowerby London.



March 1st 1830.



Sempervivum tectorum.

June 1. 1804. Published by Jas Sowerby, London.

688.



Prunus Padus

Nov.r 1. 1804. Published by Jas. Sowerby, London.



Prunus Cerasus.

1783
690.



Prunus domestica.

Sept.r 5.1807. Published by Jas. Sowerby, London.



Prunus insititia.

Feb 1. 1801. Published by Jas Sowerby, London.

692.



Prunus spinosa.

Feb. 1. 1801. Published by Jas. Sowerby, London.

2504
693.



Crataegus Oxyacantha.



Mespilus germanica.

Nov.r 1 1805. Published by Jas. Sowerby, London.

2713.
694*



Oct 1st 1831.

1784

695.



Pyrus communis

Septr 1. 1807. Publish'd by Ja^s Sowerby, London.



Pyrus Malus.

697.



Pyrus
torminalis.

Jan.y 1.1796 Published by Jn.o Sowerby London.



Pyrus domestica.

Oct.r 1. 1796 Published by J.t Sowerby London

699.



Pyrus aucuparia.

Aug.st 1796 Pubd. as the Act directs by Jas. Sowerby London



Pyrus pinnatifida.

Oct. 1 ton. published by Jn.° Sowerby, Lo...on



Pyrus Aria.

Mar. 1 1806. Published by Jas Sowerby London.

702.



Spiræa salicifolia.

June 1. 1805. Published by [illegible] London.



Spiræa Filipendula.

705.



Rosa cinnamomea.

May 1, 1812 published by Jas. Sowerby London



Spiræa Ulmaria.

September 1st 1821

706.



Rosa rubella.

May 1. 1813 published by Jas. Sowerby, London.



Rosa spinosissima.

J. Sowerby del.t July 1.st 1794.







Rosa Hibernica.

Sep.ª 1.ª 1790 published by Jn.º Sowerby London



709.



Rosa involuta.

Oct 1 1809 published by J.s Sowerby London




1
2
3

709***



710.



Rosa mollis.

Sowerby published by Jas Sowerby London.

990.
711.



Rosa tomentosa.



June 1.1808. Published by Jas Sowerby London.

2579
712.



Rosa inodora.

Published by Jas Sowerby Londn.

2490.
713.



Rosa micrantha.

Pubd as published by Jas Sowerby London.



Rosa rubiginosa.





Rosa canina.

v. 1292. Published by [illegible]




b







2611.
715*3





Rosa cæsia.

Hanhart, Jr. Imp. et Lith.



1895

717.







Rosa systyla.

June 1 1808. Published by Jas Sowerby London.

718.



Rosa arvensis.

2442.

719.



Rubus idæus.







Aug.1.1812 published by Jas. Sowerby London.

2572.

720.



Rubus subercctus.

Nov.1 1813 published by Jas Sowerby London.





Rubus.
fruticosus.



October 1st 1829.



March 1st 1830



November 1st 1830



722.



Rubus
cæsius.

Jan.ʸ 1. 1801. Published by J.ᵗ Sowerby, London

827

723.



Rubus corylifolius.

June 1. 1801. Published by Jas Sowerby, London.



724



Rubus saxatilis.

James pinx. J. Sowerby Londin.

1585

725.



Rubus arcticus.

April 1. 1806. Published by Jas. Sowerby, London.

716.
726.



Rubus Chamaemorus.

1524

727.



Fragaria vesca.

Nov.r 1. 1805. Published by Ja.s Sowerby, London.





728.



Fragaria elatior.

Engraved published by Jas Sowerby London



Potentilla fruticosa.



Potentilla anserina.

1731.



Potentilla rupestris.

Sep.r 1809 published by J.s Sowerby London.

732.



Potentilla argentea.

733.



Potentilla verna.

J. Sowerby del.t Nov.r 1 1791

561.

734.



Potentilla alpestris.



Potentilla alba.

Vol. 2. 28. 4. Published by Jas Sowerby, London.

862

1.37.



Potentilla reptans.

2389

738.



Potentilla tridentata.

Mrs. ... published by ... Lowe.

1785

739.



Potentilla Fragariastrum

Sept.r 1.1817. Published by Ja.s Sowerby, London.



Tormentilla officinalis.



Tormentilla reptans.

712.



Geum urbanum

Jan.ʸ 1.ˢᵗ 1805, Published by Ja.ˢ Sowerby, London.



Geum rivale.

London, May 1 1793



Comarum palustre

J. E. Sowerby del.t Apl. 1794



Dryas octopetala.

Jan.y 1795 Published by Js Sowerby London

